



## MISSOURI SOUTHERN SEED

2050 OLD ST. JAMES ROAD • P.O. BOX 699 • ROLLA, MISSOURI 65402

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[www.missourisouthernseed.com](http://www.missourisouthernseed.com)

# PRODUCT GUIDE





# Look for TQ RR

## AmeriStand 407TQ

**High Tonnage & Quality with Traffic Tested® Performance**

Fall Dormancy 4.4

- Very high-yielding elite variety for the grower demanding top tonnage and quality
- Very fast recovery for frequent harvest schedules under intensive management

## AmeriStand 403Tplus

**Enhanced Yield from Original Traffic Tested® Variety**

Fall Dormancy 4

- High resistance to Phoma crown rot, the "Traffic Disease"
- Unique plant type with large, deep-seated crown, finer stems, and greater leaf mass

## AmeriStand 409LH

**Resistance to Potato Leafhopper with Increased Yield & Forage Quality Potential**

Fall Dormancy 3.8

- High resistance to 6 major alfalfa diseases
- Multifoliolate (ML) for improved forage quality
- Specially selected for later fall dormancy with excellent winterhardiness



## Variety Characteristics

	Number of Cuttings	Fall Dormancy	Winterhardiness	Traffic Tested	Forage Quality Potential	Aphanomyces Root Rot (1)	Phytophthora Root Rot	Anthracnose
<b>AmeriStand 403T plus</b>	3-4	4	2.1	EX	EX	HR	HR	HR
<b>AmeriStand 433T RR</b>	3-4	3.3	2.5	EX	EX	HR	HR	HR
<b>AmeriStand 409LH</b>	3-4	3.8	2.0	—	VG	HR	HR	HR
<b>AmeriStand 405T RR</b>	4-5	4	2.0	EX	EX	HR	HR	HR
<b>AmeriStand 407TQ</b>	4-5	4.4	1.7	EX	EX	HR	HR	HR
<b>New AmeriStand 455TQ RR</b>	4-5	4.4	2.0	EX	EX	HR	HR	HR

EX = Excellent • VG = Very Good • G = Good • S = Susceptible/Satisfactory

HR = >51% Resistance • R = 31-50% Resistance • MR = 15-30% Resistance • LR = 6-14% Resistance

**Get more agronomic and variety information at [www.AmericasAlfalfa.com](http://www.AmericasAlfalfa.com)**

Genuity® Roundup Ready® Alfalfa seed is available for sale and distribution by authorized Seed Companies or their dealers for use in the United States only. This seed may not be planted outside of the United States, or for the production of seed, or sprouts. Monsanto Company is a member of Excellence Through Stewardship® (ETS). Monsanto products are commercialized in accordance with ETS Product Launch Stewardship Guidance, and in compliance with Monsanto's Policy for Commercialization of Biotechnology-Derived Plant Products in Commodity Crops. This product has been approved for import into key export markets with functioning regulatory systems. Any crop or material produced from this product can only be exported to, or used, processed or sold in countries where all necessary regulatory approvals have been granted. Do not export Genuity® Roundup Ready® alfalfa seed or crop, including hay or hay products, to China pending import approval. It is a

# The only Traffic Tested® Genuity® Roundup Ready® Alfalfa

**New**  
**AmeriStand 455TQRR**

Top Quality Traffic Tested®  
Genuity® Roundup Ready®  
Fall Dormancy 4.4  
Very Winterhardy 2.0

**ROUNDUP READY ALFALFA**

Yield Potential EX  
Quality Potential EX  
Traffic Tested® EX  
Stand Persistence EX  
Cut Recovery Very Fast  
Cuttings per Season 4-5  
Reduced Tillage EX  
Stress Tolerance EX

**Resistance Ratings**  
Aphanomyces Root Rot HR  
Race 1 HR  
Anthracnose Race 1 HR  
Phytophthora Root Rot HR  
Verticillium Wilt HR  
Fusarium Wilt HR  
Bacterial Wilt HR  
Pea Aphid R  
Stem Nematode R

800-873-2532

**AMERICA'S ALFALFA**

**Traffic Tested®**  
Bred to yield under pressure

## New AmeriStand 455TQ RR

Top Quality Traffic Tested® with  
Genuity® Roundup Ready® Alfalfa

Fall Dormancy 4.4

- Performance of very popular AmeriStand 407TQ with herbicide resistance
- Enhanced forage quality for better animal performance
- Very fast recovery for frequent harvest schedules under intensive management

## AmeriStand 433T RR

Fine Stemmed Traffic Tested®  
Genuity® Roundup Ready® Alfalfa

Fall Dormancy 3.3

- Unique plant type like AmeriStand 403T Plus with large, deep-seated crown, fine stems, abundant leaf mass and crown bud activity
- High resistance to four yield-robbing diseases

## AmeriStand 405T RR

High Yielding Traffic Tested®  
Genuity® Roundup Ready® Alfalfa

Fall Dormancy 4

- Enhanced forage quality for better animal performance
- Very leafy, multifoliate
- High resistance to seven yield-robbing diseases

Verticillium Wilt    Fusarium Wilt    Bacterial Wilt    Disease Rating    Stem Nematode    Root Knot Nematode    Pea Aphid    Potato Leafhopper

HR	HR	HR	30/30	MR	—	R	—
R	R	HR	28/30	—	—	R	—
HR	HR	HR	30/30	R	—	HR	HR
HR	HR	HR	30/30	R	HR	—	—
HR	HR	HR	30/30	R	—	R	—
HR	HR	HR	30/30	R	—	R	—

**AmeriStand 433T RR**

Top Quality Traffic Tested®  
Alfalfa with Genuity®  
Roundup Ready® Tolerance  
Fall Dormancy 3.3  
Very Winterhardy 2.5

Yield Potential EX  
Quality Potential EX  
Traffic Tested® EX  
Stand Persistence EX  
Cut Recovery Very Fast  
Cuttings per Season 4-5  
Stress Tolerance EX

**ROUNDUP READY ALFALFA**

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**AMERICA'S ALFALFA**

**Traffic Tested®**  
Bred to yield under pressure

**AmeriStand 405T RR**

High Yielding Traffic Tested®  
Genuity® Roundup Ready®  
Fall Dormancy 4.0  
Very Winterhardy 2.0

Yield Potential EX  
Quality Potential EX  
Traffic Tested® EX  
Stand Persistence EX  
Cut Recovery Very Fast  
Cuttings per Season 4-5  
Stress Tolerance EX

**ROUNDUP READY ALFALFA**

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**AMERICA'S ALFALFA**

**Traffic Tested®**  
Bred to yield under pressure



or call us at 800-873-2532 • Bred to Yield Under Pressure

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# VENUS BRAND ALFALFA

All the bells & whistles for less. Upgrade from common without paying the big bucks!

**VENUS Brand Alfalfa offers:**

- Fine stems and lots of leaves
- Disease and insect resistance
- Good winter hardiness
- Long life
- High yields/quality forage
- Reasonable price
- Does well with grass mixtures
- Fall Dormancy 4

Plant - February - Early May  
August - September

- VENUS alfalfa is for the hay producer who wants top quality forage, but the seed cost has you waiting or using an older, big stemmed variety.
- VENUS has the high quality and disease resistance of the newer types at an economical price.
- VENUS Brand's fine stems and numerous leaves brings you the quality animals gain on. This quality hay is highly marketable; producing premium prices.
- VENUS Brand has been coated, pre-inoculated, and Apron treated for better stand establishment.

Seeding Rate - 18 lbs. per acre optimum  
15 lbs. minimum



## VENUS 4PLUST ALFALFA

High Traffic Tolerance & High Disease Resistance

- Broad, deep-set crowns with large roots.
- Top yielder in comparative trials, and is an excellent choice for top hay producers and dairy farmers.
- High yielder under real world conditions where equipment, traffic and compaction influence hay production
- Traffic/Compaction Tolerance is excellent.
- Exceptional dark green color.
- Excellent Crown Rot Resistance.

Agronomic Traits	Venus 4Plus T
Traits	Rating
Bacterial Wilt	HR
Fusarium Wilt	HR
Phytophthora Root Rot	HR
Verticillium Wilt	HR
Anthracoae (Race 1)	HR
Aphanomyces Root Rot (Race 1)	HR
Aphanomyces Root Rot (Race 2)	MR
Pea Aphid	R
Leaf Hooper Yellowing	R
Traffic Tolerance	T

Winter Survival & Adaptation	
Traits	Rating
Fall Dormancy	4.0
Winter Survival	2.0
Stand Persistence	Excellent
DRI	30



## Wetland 4BR Alfalfa

Wetland 4BR combines branch rooted and multi-foliate characteristics with superior disease resistance to deliver superior performance in wet soils. The root system of Wetland 4BR has been selected for a greater degree of the branch rooted trait which helps keep more of the root system above the water table and better secures the plant in the ground when freezing and thawing occurs. Wetland 4BR would allow alfalfa to be more persistent and productive in areas not usually considered for hay production.

Agronomic Traits	
Traits	Rating
Bacterial Wilt	HR
Fusarium Wilt	HR
Phytophthora Root Rot	HR
Verticillium Wilt	HR
Anthracoae (Race 1)	HR
Aphanomyces Root Rot (Race 1)	HR
Aphanomyces Root Rot (Race 2)	R
Northern Root-Knot Nematode	HR
Southern Root-Knot Nematode	MR
Stem Nematode	HR

Winter Survival & Adaptation	
Traits	Rating
Fall Dormancy	3.6
Winter Survival	1.6
Stand Persistence	Excellent
DRI	30





# SOLID RED 3 Year CLOVER



- Long Living;  
3 yr clover
- High Yield
- Fast Regrowth



Solid Red Clover has proven to be an excellent red clover in the Midwest. This "Solid" three year clover has great disease resistance to Northern and Southern anthracnose which gives it the longevity & high yields that most red clovers do not have. Solid red clover's vigorous regrowth allows for many optimal combinations of legumes and or grasses. Add to Alfalfa, lespedeza, brome, orchardgrass, or tall fescue to create a "Solid" pasture or hayfield. Plant 8 to 10 pounds per acre alone or 5 to 6 pounds with grass January through April or August to September 15th.

## High Yields

3 year data - over 3 locations in 3 states  
Yield compared to Gallant

Gallant	103%
Freedom	100%
Kenland	100%
Kenway	94%
Marathon	90%
Arlington	82%

Test MEAN 24.18/Tons DM/acre



Gallant Red Clover makes an excellent companion crop in pastures and hay fields.



**A Superior Variety  
A 3 Year Clover**

*Gallant Red Clover  
produces more forage  
and lasts longer in the  
field than most red  
clover varieties!*

Great addition to any pasture or hayfield and can combine with a multitude of options. Plant 8 to 10 pounds per acre alone or 5 to 6 pounds per acre with grass January through April or mid August through September 15th.

## Improved Disease Resistance

- HR — Northern and Southern Anthracnose
- HR — Black Patch
- R — Powdery Mildew

## Excellent Persistence



Gallant Medium Red Clover has superior persistence to most medium red clover varieties. The photo above compares a 3 year old stand of Gallant (right) to another variety.





### Kopu II White Clover

Kopu II was selected for stolon density, persistence under grazing, high yield, and large leaf size. This was achieved primarily by selecting under cattle grazing in the Northern United States and sheep grazing in New Zealand. Kopu II, bred by AgResearch of New Zealand, was selected from a world collection of white clovers. Penn State University and the University of Wisconsin participated in the selection and evaluation of the cultivar. In trials in Lancaster, Arlington, and Marshfield, WI, and Rock Springs, PA. Kopu II has exhibited improved yield and persistence over Alice, which is known as the industry standard. Kopu II outperforms or equals Patriot and Durana in most locations in Kentucky for persistence and yield.

#### Notable Characteristics:

- ⇒ **High Stolon Density**
- ⇒ **Large Leaves**
- ⇒ **Persistence**
- ⇒ **High Yielding**
- ⇒ **Summer and Fall Growth**



Kopu II has very high stolon density

#### Seeding Rates:

New hay fields/pasture: 1-3 lbs/acre in mixes.

Renovation/Overseeding existing fields/pastures: Pastures and hay fields: 2-3 lbs./acre

#### Method of Seeding:

Use of a Brillion seeder, a no-till drill or a culti-packer is ideal. Frost seeding also works well, especially if the animals are allowed to "hoof" it into the existing pasture. Seed to soil contact is vital to having a successful stand. Plant the seed 1/4" deep. For best performance **Kopu II** should be lightly grazed frequently during establishment.

Variety	Dry Matter Yield (T/A)	% Mean	Kopu II Advantage
Kopu II	5.03	122%	
Huia	3.92	94%	+128%
Patriot	3.78	91%	+133%
Will	3.72	89%	+135%
Haifa	3.49	84%	+144%
Alice	3.43	82%	+146%
Durana	2.92	70%	+172%
LSD 0.05	0.69		



Photo above shows leaf size difference of Kopu II (right) compared to Alice.

## SYNERGY LADINO CLOVER



An impressive Ladino White Clover with exceptional growth habits, characterized by a tall, leafy, spreading plant mass. Synergy Ladino highly compliments existing pasture grasses, has good regrowth and persistence, and performs well under heavy grazing settings. Synergy Ladino is highly compatible with cool season grasses and legumes including tall fescue, orchardgrass, ryegrass, red clover, and alfalfa. It will perform on a variety of conditions including wetter and lower pH soils where other legumes are not well suited.

With its performance and customer satisfaction, Synergy is a very recognizable ladino in the Midwest. Recommended seeding rate is 2-3 lb. per acre in pasture overseedings.



# NEED HELP FOR STRESSED PASTURES? USE MISSOURI SOUTHERN'S CONVENIENT PASTURE OVERSEEDING MIXTURE

- **Legumes reduce nitrogen costs**
- **Dilutes effects of endophyte fungus in KY31 tall fescue**
- **Increase the protein content of grass forages**
- **Ladino Clover can withstand close grazing & spreads by stolons**
- **Red clover, a short lived perennial that makes for excellent grazing**
- **Plant 6-10 lbs. initially, 2-4 lbs for maintenance**

*January through April or  
mid August - September 15th.*



**94% MEDIUM RED CP & 6% LADINO CLOVER CP**



## BIRDSFOOT TREFOIL NORCEN

- A non-bloating legume.
- Preferred pH soil 5.0 to 6.0

Norcen Birdsfoot Trefoil is an upright variety suitable for pasture or hay. Birdsfoot Trefoil does best in grass mixes. Trefoil does prefer rotational grazing.

Missouri Southern Seed applies a coating material that holds inoculation next to the seed for better plant growth and nitrogen fixation. We also add Apron seed treatment to ward off early seedling diseases. Raw seed is sometimes available.

A very good addition to most all grass pastures, including tall fescue. Birdsfoot Trefoil may be frost seeded in winter, or shallow seeded in the spring or late summer.

Plant: 4 to 8 lbs per acre at a 1/4 inch depth January through April or late August through September 15.



## KOREAN LESPEDEZA

- Makes excellent late summer pasture
- Annual reseeding legume with excellent drought resistance
- Tolerates poorer soils. pH level should range from 5.0 to 6.0
- Easy to establish
- Lespedeza can be grown with most cool season grasses and other legumes.
- Great for pasture or hay.
- Plant 10-20 pounds per acre January through April
- Can be frost seeded or drilled.





# COW★PRO

Endophyte Free

## FORAGE TALL FESCUE



**COW★PRO Brand Forage Type Tall Fescue** is an outstanding forage grass suitable for all classes of livestock, with early vigor, fast regrowth and almost year-round production. COW★PRO Fescue solves many forage needs.

- High yielding-high quality forage.
- Exceptional early seedling vigor for quick establishment.
- Suitable for horses - even broodmares.
- Excellent spring and fall growth.
- Suitable for winter stockpiling.
- Tolerant of poorer soils.
- Heat and drought resistant.
- Shows resistance to rust and other foliar diseases for longer life and better animal intake.



**Seeding Time:** March thru May & August thru October  
**Seeding Rate:** 20-25 lbs. per acre



# COW★PRO

## FORAGE TIMOTHY

- Earlier maturing variety
- Excellent Yields
- Great companion crop for pastures
- Extra wide leaves

Cow Pro Forage Timothy is a tall standing, productive timothy that brings forward many special improved characteristics that outperform Climax in both volume and quality. Cow Pro Timothy is noticeably taller in upright growth and offers a great number of extra wide leaves for more tonnage. Cow Pro Timothy also matures one week earlier than Climax allowing for a better companion crop. Plant 8 to 12 pounds per acre late August through October or February through May 1st.







# Estancia Tall Fescue

with ArkShield® Technology

**Estancia with ArkShield®** is the latest generation forage tall fescue with the addition of a beneficial endophyte.

## What is Estancia Tall Fescue?

Estancia tall fescue is the result of years of laboratory and field research by the University of Arkansas in cooperation with the University of Missouri. Estancia is a medium maturing, high yielding tall fescue with excellent seeding vigor.

## What is ArkShield®?

ArkShield® is a patented smart endophytic fungus that lives inside Estancia Tall Fescue seed and plants in a mutually beneficial relationship protecting the grass from disease, insects and environmental stresses like heat and drought. ArkShield® is natural and desirable in forage grasses and has no known negative effects on livestock. The ArkShield® endophyte makes Estancia a more productive and persistent perennial forage grass.

## Estancia with ArkShield® Quality Assurance:

Estancia is packaged in a 25 lb. sealed foil bag to reduce air, heat and moisture transfer into and out of the bag that helps to ensure the viability of the seed and the live ArkShield® endophyte. Estancia with ArkShield® has both a guaranteed analysis tag ensuring the seed purity and germination, as well as a sow-by date ensuring the viability of the live endophyte.

## Put your pasture to work!

Two factors that dramatically impact the profitability of a cow-calf operation are calving rate and weaning weight. Improvement to these production factors will increase the pounds of calf that can be marketed within a given calving season or year. Lower pregnancy rates, calving rates and calf weaning weights have been observed in many research studies in cows and heifers grazing toxic fescue.

Combining cow and calf performance data, year round grazing of toxic fescue could be costing cattle producers more than \$250 per head in lost revenue based on the Arkansas beef Improvement Program's reported annual direct costs of maintaining Beef cows.



## Estancia Tall Fescue Production

Estancia Tall Fescue produces tons of nutritious, palatable, high-quality forage that results in healthier cows, heavier weaning calves and improved steer and heifer weight gains.

Effect of Cultivar on Grazing and Subsequent  
Performance of Steers Grazing Tall Fescue Pastures,  
Southeast Agricultural Research Center, KSU, 2004

Tall Fescue Cultivar - High Endophyte  
257 Day Grazing Phase

Item	Estancia	MaxQ	K-31
Gain, lb.	3.99	3.77	2.43
Daily Gain, lb	1.55	1.47	0.94
Gain/Acre, lb	319	302	199

## ArkShield® Smart Endophyte Protection



ArkShield's Smart Endophyte protects the Estancia forage from disease, insects, heat and drought stresses that result in a more persistent perennial pasture without negatively affecting cattle performance or calving rates.

## Planting Guide for Estancia Tall Fescue

- Closely graze or harvest existing toxic fescue
- Spray stubble with a non-selective herbicide
- Test soil and follow soil test recommendations
- Plant a cover-crop
- Graze/Harvest break-crop (don't transfer toxic fescue seeds in manure to break-crop forage)
- After useful life of the break-crop, spray out with a non-selective herbicide
- No-Till drill Estancia in September to November in the Southern states and August to September or March to May in the Midwestern and Northeastern states
- Seed Estancia at 20-25 lbs per acre
- Fertilize as recommended
- Estancia can be planted with other species such as alfalfa, red or white clover and grasses
- Don't graze or harvest seeding pasture the first winter.
- Be sure not to feed toxic fescue hay in newly established Estancia Pasture (or transfer toxic seed via manure)







## Three Year Dry Matter Yield Trial of Orchardgrass studied in Orange, Virginia by Virginia Tech

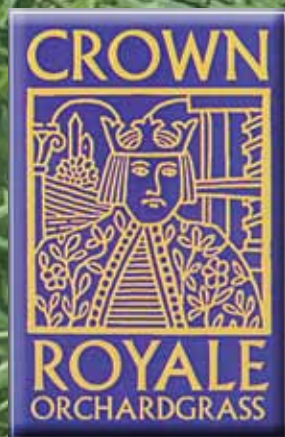
Variety	lb DM/A
Warrior II	38772
Shiloh II	37488
Benchmark Plus	37109
Persist	36501
Endurance	35582

**Warrior II** is a later maturing, upright growing orchardgrass derived from the Warrior line of high-yielding orchardgrass. This next generation variety boasts all of the traits of Warrior Orchardgrass, with improved resistance to disease and grazing pressures.

**Warrior II** is the #1 ranked proprietary orchardgrass in a three year dry matter yield trial in Orange, Virginia beating Persist & Shiloh II orchardgrass varieties. Data was gathered using three harvest schedules throughout the given year.

**Warrior II** is recommended for intensive rotational grazing, pasture, hay, green chop, and silage. However, orchardgrass requires a high mowing/grazing height. It has been found for best yields and plant life to leave at least 3.5 to 5 inches of stubble for regrowth.

**Warrior II** was selected for its improved disease resistance to stem and leaf rust as well as its increased forage yields. These traits make it a perfect compliment to alfalfa, red and white clover, birdsfoot trefoil, tall fescue, and early maturing varieties of Timothy such as our Cow Pro Timothy. Its palatability and longevity give this variety strong bonus features. Plant 15 to 20 pounds per acre March through April and September through October. Best results when drilled.



**Crown Royale** orchardgrass is a later maturing orchardgrass with improved disease resistance to leaf, stem, and stripe rust. Crown Royale was selected for its increased yield trials throughout most of the United States producing up to 35% more forage than other grasses tested. Crown Royale has excellent early seedling vigor making it easy to establish. It also performs well on various soil types ranging from clay to gravelly loams and on shallow to deep soils.

Crown Royale has shown excellent winter hardiness and moderate drought resistance. Due to its later maturity, Crown Royale is a perfect companion for fescue, timothy, alfalfa, and red and white clovers. It works well for rotational grazing pasture, hay, green chop, and silage. However, orchardgrass requires a higher mowing/grazing height. It has been found for best yields and plant life to leave at least 3.5 to 5 inches of stubble for regrowth.

Crown Royale should be planted at 15-20 pounds per acre drilled March-April or late August-October at 1/8 to 1/4 inch depth.

**Arlington Agricultural Research Station**  
**Arlington WI**  
**2011/2012 - 2 year totals**

Variety	DM Tons/Acre
Crown Royale	7.72
Pennlate	7.21
Profit	7.07

Disease Resistance Rating	S	LR	MR	R	HR
Leaf Rust					•
Stem Rust					•
Leaf Scald					•
Mottle Virus			•		
Stripe Rust					•

S=Susceptible LR=Low Resistance MR=Medium Resistance  
R=Resistance HR=High Resistance



## **Tekapo** Premium Orchardgrass

### Unique Feature - Prostrate Growth Habit

**Tekapo** is very unique among orchardgrasses in that it has a very low crown and a dense prostrate growth habit. This allows **Tekapo** to be grazed to *near ground level*; therefore, ideal for sheep and horse grazing. Its long, soft leaves also make it highly palatable and acceptable to all other livestock.

### Persistent Under Heavy Grazing

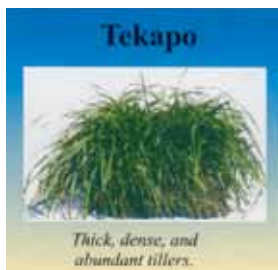
**Tekapo** will produce a very thick and dense stand that is able to better persist even under hard, continuous grazing. The dense, prostrate growth of **Tekapo** also helps it to out-compete many invasive weeds.

### High Quality Feed Producer

Under irrigation and high fertility, **Tekapo** is an abundant producer. With excellent digestibility and good feed value, **Tekapo** can be combined with high yielding grasses to make an excellent hay/grazing pasture. **Tekapo** has outperformed many other orchardgrasses in providing high feed value, better palatability and digestibility.

### Disease, Drought and Heat Tolerant

**Tekapo** is tolerant of heat, moderate drought, low fertility, and most foliar diseases, including rust. Its aggressive tillers also appear to help better utilize soil nutrients.



Thick, dense, and abundant tillers.



Stemmy, coarse, and few tillers.

## Great For Grazing

### Seeding Rate

12 lbs./acre for 100% **Tekapo** pasture. Seed with other grasses at the rate of 5-6 lbs./acre. Plant with white clover, alfalfa, tetraploid perennial, and other appropriate grazing grasses.

### Grazing Management

Because orchardgrass pastures are slower to establish than traditional ryegrass pastures, grazing management following sowing is crucial to successful establishment of the stand. Establishment under ideal growing conditions could be 6-7 weeks for a Spring sowing and 10-12 weeks for an Autumn sowing. In a pure **Tekapo** stand, the first grazing should be brief and preferably by young stock.

An application of nitrogen, 25-30 units/acre 4-6 weeks after sowing promotes tillering without damage to the young stand. Once established, **TEKAPO** should be grazed or cut leaving 3-4" residual.

### Planting Tips

Like all orchardgrasses, **Tekapo** will take a year or more to reach its full production potential. It should be planted in early Autumn or in the Spring as soon as the soil is warm.

Plant in a prepared, firm seedbed, seeding with a Brillion-type seeder, or by broadcast and cultipack.

**DON'T PLANT TOO DEEP** - planting depth of 1/8-1/4" is best. No-till is only recommended when a herbicide is used to sufficiently kill or retard the existing stand.

A minimum pH of 6.0 is best.

# PALATON Reed Canarygrass!

### ADVANTAGES:

- **Palatable** to Cattle & other livestock — Palaton is lower than other varieties in alkaloids—a bitter substance that keeps cattle from eating them, thus giving increased palatability and gains from its forage.
- **Winter Hardy**—Very persistent.
- **Yields**—Palaton has an excellent yield record producing over 5 tons of quality, palatable, dry matter over a 3 year average on three cuttings.
- **Tough**—A grass that can take all kinds of weather conditions and still be accepted by livestock.
- **Withstands excessive wetness.**
- **Withstands excessive drought conditions.**
- **Multiple Cuttings**—Stands up to multiple cuttings under wet or drought conditions, something you can not do with orchardgrass, timothy, brome, or ryegrass. When these grasses quit growing Palaton Reed Canarygrass is still growing and producing good palatable forage.
- **Leaf disease resistance.**
- **Outstanding pasture grass** in combination with legumes.

### MANAGEMENT

**Time to Plant:** February through April or August through September—alone or with companion crop. Late summer planting recommended for low, wet areas to permit proper soil preparation.

**Soil Preparation:** Good seedbed preparation is important. Prepare soil as for any small-seeded forage crop, fine and firm.

**Planting Depth:** 1/4" to 1/2" deep.

**Rates to Plant:** Palaton alone—10 to 12 lbs./acre. Higher rates recommended for poorer soil conditions or lower germination.







- High yielding
- Late maturing
- Winter hardy
- Very palatable
- Early Spring green-up
- Improved re-growth
- Improved drought tolerance

**Application:** **York** is recommended for hay, grazing, silage or green chop (direct feeding). When mixed with alfalfa or clovers, **York** provides a long lasting grass companion that will enhance the quality of the animal's diet. When seeded alone or with other grasses, **York** can provide excellent season-long forage.

**Management:** **York** Smooth Brome grass is a deep-rooted, sod-forming grass which grows best on fertile, well drained soil with a pH above 6.0. Smooth Brome grass is very responsive to N fertilization and requires a high level of fertility for maximum production. Spring harvest management is vital for yield and persistence. To insure against harming the growing point, be careful about cutting or grazing smooth brome grass early in the spring. Generally speaking, animals should be moved off of Smooth Brome grass before the grass is grazed below four inches.

**Seeding:** **York** should be planted at a rate of 15-20#/acre when seeded alone or 3-8#/acre in mixes or with alfalfa. **York** should be planted approximately 1/4 - 1/2 " deep.



Variety	Ithaca, New York 2002					2002				
	30-May	28-Jul	9-Oct	Total Season	% Grass 9-Oct	2001 Total	2000 Total	3- year Total	Heading Date	Number of Heads
tons/acre dry matter										
Badger	2.42	1.15	0.23	3.83	69.00	4.31	5.43	13.57	24-May	1
<b>York</b>	<b>2.66</b>	<b>1.33</b>	<b>0.36</b>	<b>4.34</b>	<b>80.00</b>	<b>4.72</b>	<b>5.49</b>	<b>14.54</b>	<b>24-May</b>	<b>1</b>
Alpha	2.71	1.31	0.31	4.33	73.00	4.64	5.48	14.46	24-May	5
Peak	2.70	1.31	0.40	4.40	84.00	4.52	5.54	14.46	24-May	17
Radisson	2.59	1.37	0.33	4.27	68.00	4.58	4.98	13.83	24-May	24
Saratoga	2.84	1.27	0.35	4.47	84.00	4.67	5.44	14.57	26-May	10



A Northern Adapted Prairie Brome

#### Notable Characteristics

- Very palatable, high yielding forage
- Improved disease resistance
- More winter hardy than Matua
- Quicker stand establishment than Matua
- More drought tolerant than many other cool-season grasses

#### Application:

- Beef, dairy, and other livestock forages systems to be utilized as pasture, MIG (managed intensive grazing), green chop, haylage, silage, or dry hay.
- Facilities needing to dispose of excess nitrogen including confinement dairies, hog and chicken farms, fruit processing plants, sewage/water treatment facilities, and factories. Prairie brome can uptake as much as 600 units of nitrogen per acre per year.

#### Seeding Rate:

In well-prepared seedbeds drill 25-30#/acre and for broadcasting sow 40-50#/acre. No-till rates should be sown at 35-40#/acre.

#### Method of Seeding:

Seeding depth must not exceed 1/4" deep. Spring plantings should be completed by early-mid May. Summer plantings should be completed by early September in Northern areas to assure better winter survivability. For the South, the fall seems to be the best time to plant Lakota.

#### Management:

For maximum persistence **Lakota must be allowed to reseed itself in late summer**. Like all bromes, Lakota has limited tolerance to set stocking. It is best suited to controlled grazing systems as well as hay and silage production. If grazing, it is best to leave at least 4 inches of stubble.

Longer pasture life can be attained if grown on well-drained, medium-high fertility soils with a pH 6.0-7.0. Generally, soils that support alfalfa stands are good for prairie brome grass. Prairie Brome grass requires high levels of Nitrogen fertilizer for top production. Applications of 30-50# N/acre after each harvest will help provide for maximum production. Use of ladino clover is an excellent source for free nitrogen and easily fits with both organic and non-organic farming practices. *\*Note prairie bromes are not known to survive harsh open winters. Stand loss will occur due to winterkill is greater for regions that typically have long periods of below freezing temperatures without snow cover. Better survival seems to be possible if stubble is cut or grazed down to less than 2" before entering winter.*

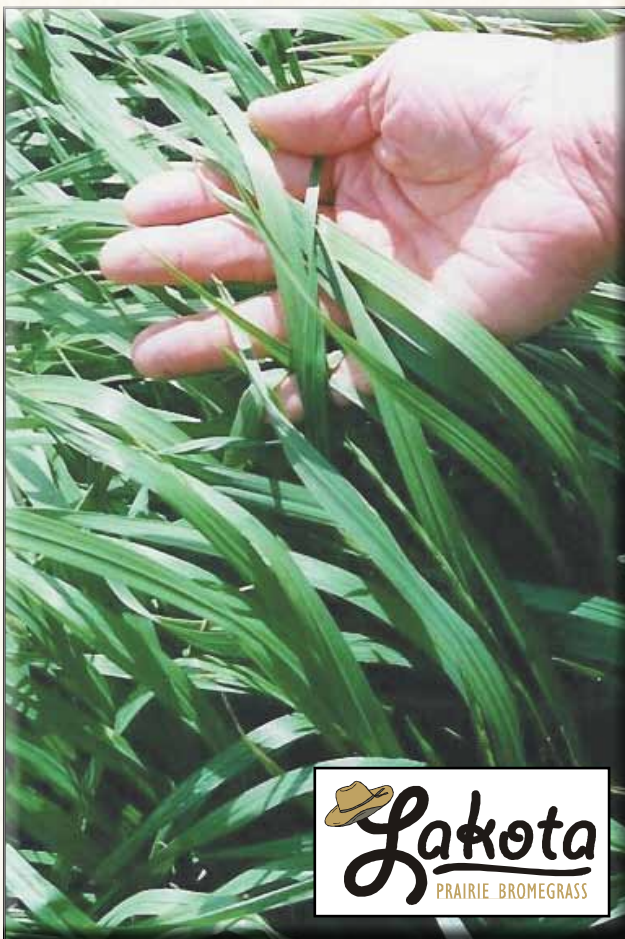
Lakota prairie brome grass was selected in Oregon and Pennsylvania from top-performing prairie brome plants. Lakota was selected by researchers from New Zealand and the US to provide better winter tolerance and resistance to powdery mildew. Trial results from Wisconsin and Illinois show Lakota's impressive performance when planted in the spring. Research shows top performance in states including Kentucky, New York, Pennsylvania, South Carolina, and Virginia.

#### University of Illinois, Freeport

April, 2000 Planting	
1st Year data - 2 cuttings	
Variety	DM tons/acre
Lakota prairie brome	2.28
Jessup Max Q TF	2.27
Dixon prairie brome	2.23
KY-31 TF	2.19
Lincoln smooth brome	1.93
Plot average	1.87
LSD	0.34

#### University of Wisconsin, Lancaster

April, 2000 Planting	
1st Year data - 3 cuttings	
Variety	DM tons/acre
Kokanee TF	3.84
Lakota prairie brome	3.75
Dixon prairie brome	3.55
Bronc Orchardgrass	3.26
Plot average	2.92
LSD	0.76





# WRANGLER

## SEEDED BERMUDAGRASS

with improved cold tolerance and forage production is an excellent choice for pasture, hay, or soil conservation in temperate and subtropical regions. Wrangler is well adapted to the transition zone of the United States (OK, KS, MO, AR, TN, etc.) where winterkill of common is a problem. In fact, Wrangler is the most widely planted cold tolerant forage variety planted in the U.S. It has great early spring green-up and fast regrowth making Wrangler an excellent choice for any farming system.

### CULTURAL PRACTICES

- **Fertility:** A total of 100 to 200 lb./ac/year (112 to 224 kg/ha/year) of actual Nitrogen is recommended based on expected precipitation and level of dry matter production or quality desired. The Nitrogen should be split into at least two applications; the first in early spring and the second in mid summer. Minimum soil levels of 65 lb./acre phosphorous and 200 lb./acre potassium should be maintained for maximum production at the desired Nitrogen level.
  - **Harvesting Schedule:** Every 30 to 60 days depending on fertility and moisture. As a rule, the more frequent cuttings provide higher quality forage with less total dry matter while less frequent cuttings reduce quality but increase dry matter production.
- **Dates:** Late spring when soil temperatures reach 65°F (20°C). Plantings through summer months are successful if moisture is available for germination and seedling establishment.
  - **Rates:** 8 to 12 lb./acre (9 to 13 kg/ha).
  - **Depth:** 1/8" (3 mm) on heavy soils to 1/4" (6 mm) on sandy soils.
  - **Method:** Brillion seeder; broadcast (roll or harrow).
  - **Soil Preparation:** Prepare firm seed bed free of weeds and clods to provide good seed to soil contact.
  - **pH:** Test soil prior to planting. A range of 6.0 to 7.5 is sufficient.
  - **Fertility:** Test soil prior to planting. A fertilizer low in nitrogen but high in phosphorous and potassium is recommended as a starter fertilizer to promote seedling vigor without promoting excessive weed growth. Increases nitrogen as seedlings develop and a sod forms.
  - **Weed Control:** Not recommended in the seedling stage except for very light applications of 2, 4 D to control broadleaf weeds. Residual herbicides are not recommended in the first 60 days.
  - **Irrigation:** If applicable, keep soil moist for germination. As seedlings develop reduce frequency of watering but increase the amount.



### SEEDING



**Stampede PLUS Bermudagrass Blend** was formulated to combine the excellent winter hardiness and early spring green-up of the proven **Wrangler** variety with the fast establishing, fast producing **Giant** and **CD90160** varieties. The result: a widely adapted, high producing forage blend that establishes quickly and handles the toughest stress. Due to the addition of varieties Giant and CD90160, grazing or multiple hay cuttings can occur during the planting year.

**Follow the cultural practices of Wrangler (above).**





- Drought Resistant
- Very Persistent
- Excellent Grazer

**Albion** tetraploid forage perennial ryegrass, developed in Southern France, is widely adaptable to the Midwest. Albion is deeper rooted & much more heat & drought tolerant than other perennial ryegrasses. Even though ryegrasses aren't known for their drought tolerance, Albion survived and grew in the drought of 2012! Albion is a profuse tillering plant with wider leaves than most ryegrasses. Albion is very suitable for a rotational grazing system or frequent hay cuttings. It has been found that Albion responds best when grazing or hay harvest occurs before reproduction and when 3 inches of stubble is left for regrowth. Responds well to fertility. Plant 25 to 35 pounds per acre February through April or September through October.

## BESTFOR Tetraploid Ryegrass

**Bestfor** (*Lolium Hybridum*) is a cross of perennial and Italian ryegrass. It produces an immense amount of forage consisting of broad dark green blades, and large succulent stems preferred by all livestock.

**Bestfor**, compared to tall fescue, brome grass, and timothy, is by far more palatable and digestible. It produces a superior pasture when sown alone. However, it was originally bred to be sown with alfalfa, legumes or other grasses for permanent pasture or hay production.

**Bestfor's** quick germination and rapid establishment makes it an excellent choice for overseeding existing pastures and hay fields.

**Bestfor** consistently out-performs improved forage perennial ryegrass in dry matter yield trials.

**Bestfor** germinates in 4-7 days under ideal conditions, which allows grazing and chopping within 6-8 weeks.

**Bestfor's** seeding rate is 20-25 lbs. per acre in a mono stand and 12 lbs. per acre of Bestfor in a mixed stand. If combined with other grasses or legumes, the seeding rate is 25-50% of the mixture. Planting is optimal when done in spring, however, early fall plantings are also successful.



*Maximum Feed Value and Extended Plant Vigor*

**Duo** selected as a cross of the best festulolium material available. It looks like ryegrass, digests like ryegrass, and is palatable like ryegrass, but is heartier. Due to the parentage that includes meadow fescue, Duo can tolerate summer's heat and winter's frigid cold.

**Duo** has a very high feed value due to its tetraploid characteristics. It has a high sugar content making it easily digestible and allowing your livestock to gain a high energy ration for milk or meat gains.

**Duo** also produces high yields. Yield trial results at Ohio State University indicate that Duo can out-yield other ryegrasses by 12-24%. Meadow fescue parentage helps minimize "summer slump" while ryegrass parentage maximizes spring and fall growth.

**Duo** is recommended for hay, grazing, silage, or green chop. It can be mixed with legumes or other grasses to bolster your pasture or hayfield. Plant 25 to 35 pounds per acre or 12-15 pounds with other grasses. Responds well to fertilization. If grazing, leave 3 to 4 inches of stubble for regrowth.







- Vigorous Growth/Re-growth
- High Energy/Feed Quality
- Excellent Palatability/Digestibility
- Very High Sugar Content

**Feast II** is a late-maturing tetraploid ryegrass bred primarily for grazing. **Feast II** is a ryegrass that is short lived (1+ crop years), but extremely productive. It is a profuse tillering, quick-growing variety with very little re-heading. **Feast II** is less sensitive to drought and heat than many diploid ryegrass varieties. In addition, tetraploids have four sets of chromosomes, resulting in wider leaves and larger cells. These large tetraploid cells compared to smaller diploid (two sets of chromosomes) cells have a higher ratio of cell contents versus cell walls (fiber). This means farmers should see very impressive milk and meat gains.

**Feast II** can be easily utilized by beef, dairy, and other livestock producers for intensive grazing, green chop, haylage, or dry hay. Because **Feast II** establishes easily, it is also well suited for pasture renovation and minor field repairs. Plant 25 to 35 pounds per acre when overseeding/renovating a pasture. Plant March through early May.



**Lonestar** Annual ryegrass is a very cold tolerant, disease resistant forage variety that has excellent seedling vigor and rapid regrowth. **Lonestar** is a medium maturing variety suitable for grazing, hay, cover crop, or erosion control. **Lonestar** is a diploid annual ryegrass, which will allow the hay to dry quicker than tetraploid varieties. **Lonestar** features improved foliar disease resistance, such as gray leaf spot and crown rust. **Lonestar** provides growers the highest quality forage and high yields. **Lonestar** has placed near the top of forage trials throughout the U.S. for overall dry matter yields. **Lonestar** has shown to perform well in cold or high temperatures making it one of the most versatile ryegrasses available. Plant 25 to 35 pounds per acre mid August through October.

Variety	DM Pounds/Acre	2010/2011
<b>Lonestar</b>	<b>9447</b>	Trial ran by The Samuel Roberts
Marshall	8044	Noble Foundation Ag Division
		Ardmore, OK



- Great Early Seedling Vigor
- Very Good Cold Tolerance
- Increased Palatability

**Tetrastar** is a tetraploid annual ryegrass that has shown very good cold tolerance and disease resistance when comparing it to Gulf annual ryegrass or older varieties. It has excellent disease resistance to crown rust and other foliar diseases. **Tetrastar** is a medium maturing variety that can be used as pasture, hay, silage, winter cover crop, and erosion control. With excellent early seedling vigor, **Tetrastar** is easy to establish. In addition, **Tetrastar**, like all tetraploids, has four sets of chromosomes resulting in wider leaves and larger cells. Compared to diploid ryegrass, **Tetrastar** has a higher ratio of cell contents versus cell walls (fiber) meaning farmers should see higher weight gains. Plant 25-35 pounds per acre late August through October.



# PLANTING



## FORAGE LEGUMES

SPECIES	SEEDING RATE LBS/ACRE DRILL/BROADCAST	SEEDING TIME	DEPTH INCHES	APPROX SEEDS/LB (1000)
ALFALFA .....	D 15-20	(SP. OR LATE SUMMER)	1/4	220
BIRDSFOOT TREFOIL .....	D 5-8	(FEB-APR OR LATE SUMMER)	1/4	375
MEDIUM RED CLOVER .....	B 5-8	(JAN-APR OR LATE SUMMER)	0 - 1/4	275
ALSIKE CLOVER .....	B 4-6	(JAN-APR OR LATE SUMMER)	0 - 1/4	680
ALTASWEDE CLOVER .....	B 6-10	(JAN-APR OR LATE SUMMER)	0 - 1/4	275
COW*LOVER CLOVER MIX .....	B 6-8	(JAN-APR) (LATE SUMMER)	0 - 1/4	304
LADINO CLOVER .....	B 1-3	(JAN-APR OR LATE SUMMER)	0 - 1/4	860
WHITE CLOVER .....	B 1-3	(JAN-APR OR LATE SUMMER)	0 - 1/4	860
SWEET CLOVER (YELL/WHITE) .....	B 10-15	(JAN-APR OR LATE SUMMER)	0 - 1/4	260
KOBE LESPEDEZA (STRIATA) .....	B 15-20	(JAN-APR)	0 - 1/4	227
KOREAN LESPEDEZA (STIPULECEA) .....	B 15-20	(JAN-APR)	0 - 1/4	240
KOREAN LESPEDEZA, HULLED .....	B 10-20	JAN-APR)	0 - 1/4	320

## ANNUAL LEGUMES / BRASSICAS / HERB

CRIMSON CLOVER .....	B 15-20	(AUG-OCT)	0 - 1/4	150
HAIRY WINTER VETCH .....	B 20-25	(FEB-APR OR LATE SUMMER)	1/2 - 1	16
WINTER PEAS .....	B 30-40	(FEB-APR OR LATE SUMMER)	1/2 - 1	3.6
CHICORY, PER. HERB .....	4-5	(SPRING & FALL)	1/8 - 1/4	425
RADISH .....	10-12	(AUG-SEPT)	1/4	40
RAPE .....	6-10	(SPRING & FALL)	0 - 1/4	145
TURNIP .....	2-5	(SPRING, SUMMER & FALL)	1/4	167

## FORAGE GRASSES

SPECIES	RATE/ACRE DRILL/BROADCAST	SEEDING TIME	DEPTH INCHES	APPROX SEEDS/LB
BERMUDAGRASS .....	D 8-12	(L. SPRING & E. SUMMER)	1/4	13,000
BLUEGRASS .....	B 10-15	(FEB-APR) (AUG-OCT)	0-1/4	2,200
BROMEGRASS, SMOOTH .....	B 15-25	(FEB-APR) (AUG-OCT)	1/4-1/2	134
BROMEGRASS, MEADOW .....	B 15-25	(FEB-1ST MAY) (AUG-OCT)	1/4-1/2	93
ORCHARDGRASS .....	D 15-20	(MAR-APR) (AUG-OCT)	1/4 - 1/2	590
PRAIRIE BROME, LAKOTA .....	D 30-35	(E. SPRING & E. FALL)	1/4 - 1/2	52
RED TOP .....	B 8-12	(FEB-MAY) (AUG-OCT)	1/4	5,100
REED CANARYGRASS .....	B 8-12	(FEB-MAY) (AUG-SEPT)	1/4 - 1/2	550
RYEGRASS, ANNUAL .....	B 25-35	(FEB-MAY) (AUG-OCT)	1/4 - 1/2	270
RYEGRASS, PERENNIAL .....	B 25-35	(FEB-MAY) (AUG-OCT)	1/4 - 1/2	270
TIMOTHY .....	B 8-12	(FEB-MAY) (AUG-OCT)	0-1/4	1,230
TALL FESCUE .....	B 20-25	(FEB-APR) (AUG-OCT)	1/4-1/2	225

## PASTURE MIXTURES

HORSE .....	B 20-25	(FEB-1ST MAY) (AUG-OCT)	1/4-1/2	1,033
ELITE .....	B 20-25	(FEB-1ST MAY) (AUG-OCT)	1/4-1/2	475
CLASSIC .....	B 20-25	(FEB-1ST MAY) (AUG-OCT)	1/4-1/2	630
HARDY .....	B 20-25	(FEB-1ST MAY) (AUG-OCT)	1/4-1/2	452
WATERWAY .....	B 20-25	(FEB-1ST MAY) (AUG-OCT)	1/4-1/2	432
FIX-A-LOT .....	B 20-25	(FEB-1ST MAY) (AUG-OCT)	1/4-1/2	475

WARM SEASON GRASSES (PLS) PURE LIVE SEED	PLS LBS PER ACRE	SEEDING TIME	APPROX SEED PER LB
BIG BLUESTEM	5-10	(LATE MAY & JULY)	130
INDIAGRASS	6-10	(LATE MAY & JULY)	170
LITTLE BLUESTEM	5-6	(LATE MAY & JULY)	260
SIDE OATS GRAMMA	8	(LATE MAY & JULY)	135
SWITCHGRASS	5-6	(LATE MAY & JULY)	280
EASTERN GAMMA GRASS (DORMANT)	8	(DEC - FEB)	7.5
CAUCASIAN BLUESTEM	2-3	(LATE MAY & JULY)	900
CRABGRASS	4-6	(LATE MAY & JULY)	825
VIRGINIA WILDRIE	5-10	(SPRING-FALL)	96
CANADA WILDRIE	7	(SPRING-FALL)	115

## HELPFUL CONVERSIONS

Acre	=	43,560 Sq. Ft.
	=	405 Hectare
Hectare	=	2.47 Acres
Pound	=	454 Grams
Kilogram	=	2.205 lb.

## Typical Purity and Germinatin with PLS %

Purity Percent	Germ 90%	Germ 85%	Germ 80%
99.50	89.55	84.57	79.60
99.25	89.32	84.36	79.40
99.00	89.10	84.15	79.20
98.50	88.65	83.72	78.80
98.00	88.20	83.30	78.40
97.50	87.75	82.87	78.00
97.00	87.30	82.45	77.60
96.50	86.85	82.02	77.20
96.00	86.40	81.60	76.80
95.00	85.50	80.75	76.00
94.00	84.60	79.90	75.20
93.00	83.70	79.05	74.40
92.00	82.80	78.20	73.60
90.00	81.00	76.50	72.00
65.00	58.50	55.25	52.00
64.00	57.60	54.40	51.20



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800-844-1336



# CHART

## LAWN SEEDS

SPECIES	RATE LBS PER 1000 SQ FT	APPROX SEEDING TIME	APPROX SEEDS/LB (1000)
BERMUDAGRASS.....	2-3	(MAY-JULY)	1,300
BENTGRASS.....	2	(MARCH-SEPT)	8,000
BLUEGRASS.....	3-5	(FEB-MAY) (AUG-OCT)	2,200
BUFFALOGRASS.....	1-3	(MAY-AUG)	275
CLOVER, WHITE DUTCH.....	3-5	(FEB-APRIL) (AUG-OCT)	700
CROWN VETCH.....	2-3	(SP-SUMMER-FALL)	122
FESCUE, TALL KY 31.....	8-10	(FEB-APR) (AUG-OCT)	225
FESCUE, TALL TURF TYPES.....	8-10	(FEB-APR) (AUG-OCT)	225
FESCUE, CREEPING RED.....	3-5	(MAR-MAY) (AUG-OCT)	615
FESCUE, CHEWINGS.....	3-5	(MAR-MAY) (AUG-OCT)	615
RYEGRASS, PERENNIAL.....	5-6	(FEB-JUNE) (AUG-OCT)	270
RYEGRASS, ANNUAL.....	5-6	(FEB-JUNE) (AUG-OCT)	270
RYEGRASS, TURF TYPES.....	5-6	(FEB-JUNE) (AUG-OCT)	270
ZOYSIA.....	2	(MAY-AUG)	1,200
WILDFLOWERS, MIDWEST MIXTURE.....	5 OZ	(SPRING, FALL)	419

## LAWN MIXES

FANCY.....	3-5 LBS	(FEB-APR) (AUG-OCT)	700
PREMIUM.....	3-5 LBS	(FEB-APR) (AUG-OCT)	935
SUPREME.....	3-5 LBS	(FEB-APR) (AUG-OCT)	808
PLAYGROUND.....	5-7 LBS	(FEB-APR) (AUG-OCT)	440
LANDSCAPER.....	7-9 LBS	(FEB-APR) (AUG-OCT)	236
PRETTY TUFF.....	7-9 LBS	(FEB-APR) (AUG-OCT)	236
EASY TURF.....	7-9 LBS	(FEB-APR) (AUG-OCT)	234
SUPER EASY TURF 4.....	8-10 LBS	(FEB-APR) (AUG-OCT)	234
SHADY.....	5-7 LBS	(FEB-APR) (AUG-OCT)	420
5-WAY.....	8-10 LBS	(FEB-APR) (AUG-OCT)	225
5 PLUS 10.....	7-9 LBS	(FEB-APR) (AUG-OCT)	422
CONTRACTORS.....	7-9 LBS	(FEB-APR) (AUG-OCT)	236

## ANNUAL FORAGES AND GRAINS

SPRING	SEEDING RATE LBS/ACRE DRILL/BROADCAST	APPROX SEEDING TIME	DEPTH INCHES	APPROX SEEDS/LB (1000)
OATS, FORAGE, COW★PRO.....	D 85-100	(FEB-APR)	1-2	16
OATS, SPRING, GRAIN.....	D 64-96	(FEB-MAR)	1-2	16
BARLEY, SPRING, GRAIN (NORTH).....	D 72-96	(EARLY SPRING)	1-2	14
WHEAT, SPRING, GRAIN (NORTH).....	D 90-120	(EARLY SPRING)	1-2	11

## SUMMER

COWPEAS, FORAGE (HAY).....	D 50-60	(MID MAY-JULY)	1	3.6
MILLET, PEARL, HYB, COW★PRO.....	D 12-15	(MID MAY-JULY)	1/2 - 3/4	82
.....	B 30-40			
MILLET, GERMAN FOXTAIL.....	D 20-30	(MID MAY-JULY)	1/2	165
SORGHUM-SUDAN HYB. HONEYCOMB.....	D 20-30	(MID MAY-JULY)	1	22
.....	B 30-50			
SORGHUM-SUDAN HYB. SURPASS BMR6.....	D 20-25	(MID MAY-JULY)	1	20
.....	B 30-35			
SORGHUM, FORAGE HYB DAIRY MASTER..	D 6-8	(MID MAY-JULY)	1	15
SORGHUM, FORAGE HYB REDTOP KING.....	D 10-12	(MID MAY-JULY)	1	20
.....	B 20-25			
SORGHUM, GRAIN HYB 9200Y.....	D 6-8	(MID MAY-JULY)	1	15
SOYBEANS, FORAGE COW★PRO.....	D 75-90	(MID MAY-JULY)	1	3.4
SOYBEANS, HAY, LAREDO.....	D 50-60	(MID MAY-JULY)	1	6

## FALL/WINTER

BARLEY, WINTER, GRAIN.....	D 72-96	(AUG-EARLY OCT)	1/2 - 1	14
OATS, WINTER, BOB.....	D 75-100	(AUG-OCT)	1-2	16
RYE, FORAGE, COW★PRO (SOUTHERN CEREAL).....	D 100-120	(AUG-OCT)	0-2	18
RYE, FORAGE, ELBON..... (SOUTHERN CEREAL)	D 100-120	(AUG-OCT)	0-2	18
RYE, WINTER (NORTHERN CEREAL).....	D 84-112	(AUG-NOV)	0-2	18
TRITICALE, WINTER, FRIDGE.....	D 100-120	(SEPT-OCT)	1-2	15
WHEAT, FORAGE, COW★PRO.....	D 100-120	(AUG-OCT)	1-2	11
WHEAT, PASTURE.....	D 100-120	(AUG-OCT)	1-2	11
WHEAT, WINTER, GRAIN.....	D 100-120	(OCT-NOV)	1-2	11-13

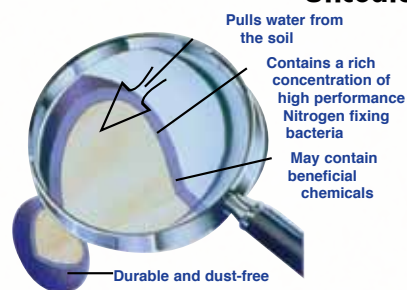
## WILDLIFE FOOD PLOT

SPECIES	PLANTING RATE LBS PER ACRE	SEEDING TIME
BUCKWHEAT.....	48-60	MAY- AUG
CHICORY.....	5	SPRING - EARLY FALL
CHUFA.....	30-40	APRIL - JULY
CLOVER, LADINO.....	5-8	JAN - APR, AUG - SEP
CORN, HYBRID, & OP.....	12	APRIL - MAY
COWPEAS.....	60	MAY - JULY
DEER MAGIC.....	10	SPRING - FALL
EGYPTIAN WHEAT.....	10	MAY - JULY
SPRING WILDLIFE.....	50	MAY - JULY
FALL WILDLIFE.....	50-100	AUGUST - OCTOBER
LAB-LAB BEANS.....	20	MAY - JULY
LESPEDEZA, BI-COLOR.....	10	SPRING - SUMMER
LESPEDEZA, SERICEA.....	20-30	EARLY SPRING
MILLET, BROWNTOP.....	30-40	SPRING - SUMMER, EARLY FALL
MILLET, JAPANESE.....	20-30	MAY - AUGUST
MILLET, WHITE PROSO.....	30	MAY - AUGUST
PEAS, WINTER.....	50	FEB - APR - AUG - SEPT
RADISH.....	10-12	JULY - SEPT
RAPE.....	6-10	APRIL - SEPTEMBER
RICE.....	50-90	MAY - JUNE
SORGHUM, HYB, FORAGE.....	6-8	MAY - JULY
SORGHUM, HYBRID GRAIN.....	6-8	MAY - JULY
SORGHUM, WGF.....	15-30	MAY - JULY
SOYBEANS.....	75-90	MID MAY - JULY
SUGAR BEET.....	5	SPRING, EARLY FALL
SUNFLOWER, PEREDOVIC.....	15-30	APRIL - JULY
SUNFLOWER, HYBRID OIL.....	6-8	MAY - JULY
TURNIP, FORAGE.....	3-5	EARLY SPRING - MID SUMMER
TURNIP, PURPLE TOP.....	2-5	SUMMER - FALL



Coated "CP"

Preinoculated  
Uncoated



**COATED SEED ENHANCES SEED GERMINATION AND SEEDLING SURVIVAL AND GROWTH. PLANTING RATES ARE THE SAME AS PURE SEED. CHECK PURE LIVE SEED REQUIREMENTS WHEN CONSIDERING COATED SEED.**

## How Many Plants In A Bag of Seed?





# COVER CROPS



- Nitrogen Mining & Nutrient Scavenger
- Aerates Ground
- Promotes Water Infiltration
- Natural Tillage



**Ground Hog Radish** has created a name for itself in cover crops. Being a nitrogen scavenger, Ground Hog radishes have an extra large root system allowing it to pull nitrogen and other nutrients deep within soil back to the surface. When decomposing during the winter, nitrogen and the other nutrients then become available for the next crop planted. Although mostly used as a cover crop, Ground Hog radishes are also planted for forage and weed suppression. Plant 10-12 pounds per acre August - early October. Can be planted in spring for forage use.



Wheat, mostly used for a cash grain, makes a great cover crop. Slower to mature than other cereal grains making it easy to kill. Germinates quickly helping to suppress weeds. Plant 60-120 lbs. per acre late summer/early fall.



Cereal Winter Rye is the hardiest of the cereal grains. It can also be planted later in the fall than other grains. Quicker growing than wheat, rye also absorbs more unused N. Rye suppresses weeds allelopathically. Plant 60-120 lbs per acre late summer/early fall.



Winter Hairy Vetch is a winter annual legume that is known for its nitrogen contribution. Hairy Vetch produces such a large amount of N that it can partially replace fertilizer for spring. It will improve topsoil tilth and is also a weed suppressor and a phosphorus scavenger. Plant 20-30 lbs per acre late summer.



Crimson clover is a winter annual that can provide nitrogen for your next cash crop. It will create a good amount of biomass and has been found to grow well when planted with a companion crop. Plant 15-20 lbs per acre late summer.



Turnips are not only an edible food but also great for alleviating soil compaction. Roots are large and smooth, and although they don't produce as much biomass as a radish, turnips are great for water infiltration. Plant 2-5 lbs. per acre late summer.



Rape is most often used for forage, but it can also be used a cover crop. Due to its rapid fall growth, it can capture a significant amount of N. Rape is also a great weed suppressor. Plant 10 lbs per acre late summer/early fall.



Buckwheat is a great short-season cover crop. Generally, buckwheat matures in a 10-12 week time period. It is known for its ability to suppress weeds and collect phosphorus. It also attracts beneficial insects and pollinators. Plant 50-60 lbs drilled or 100 broadcast late spring or late summer.



Annual ryegrass is an economic choice for a cover crop. It holds the soil well and will collect some N. It has a very dense and deep root system. Plant 20-30 lbs late summer/early fall.



Winter Oats are another quick growing cover crop. They will collect excess N and small amounts of other nutrients when planted early enough. Not as winter hardy as rye, wheat, or barley. Plant 2-3 bushel per acre late summer/early fall.



Winter peas are a legume that can be an excellent nitrogen source. Most often used as a plow down crop, winter peas can produce a large amount of biomass. Winter peas can also withstand cold temperatures. However, they do not always winter over. Plant 40-60 lbs late summer/early spring



Winter barley is an early maturing cover crop. Barley is a quick source of biomass which can improve soil structure and water infiltration. It will collect excess N and it is a great weed suppressor. Earliest maturing cereal grain. Plant 60-100 lbs per acre late summer/early fall.



# FALL/WINTER FORAGES



## COW★PRO FORAGE WHEAT (Triticum Aestivum)

Cow★Pro Forage Wheat is a beardless, soft red winter wheat bred for large volume forage production. Very leafy, with wide blades and exceptionally tall height. Cow★Pro Forage Wheat is 6 to 12 inches taller than most wheat varieties and almost double the forage production. Cow★Pro Wheat produces a lot of straw with decent grain yields. Its closed head reduces disease and is resistant to weather damage resulting in high test weight. The beardless aspect allows for wider window of hay harvest time. Good for fall grazing and hay or haylage in the spring. Seed 100 to 120 lbs per acre - August through November. Responsive to Nitrogen.

## FRIDGE TRITICALE

(Triticum Secale)

Fridge Triticale is a tall winter variety that has excellent winter survival throughout the Midwest. Triticale is a genetic cross between wheat (triticum) and rye (secale) and has the ability to reproduce itself. It is higher in protein and palatability than wheat and common rye, and is an excellent small grain for pasture, hay, or haylage. In general, the variety is recognized by strong stems, dark medim green foliage color, and long, awnletted spikes (**NOT BEARDED**). Fridge relies on rapid, early growth and stand height to produce tonnage. Seed 100 to 120 lbs per acre September through October. Fertility requirements: 40 lbs P, 80 lbs K in the fall. 80 to 100 lbs N in the spring.

## COW★PRO FORAGE RYE

(Secale Cereale)

Cow★Pro Forage Rye is the best grain for grazing. Cow★Pro Rye establishes fast for fall grazing. Cow★Pro Rye grows faster than common winter rye for more cows per acre. Cow★Pro Rye is a strain cross variety which results in hybridized vigor. Very adaptable to cattle grazing, but not recommended for hay. Cow★Pro Rye comes out of winter dormancy quicker than common rye, wheat and cool-season grasses. This allows you to graze earlier in the spring and save some hay. Cow★Pro Rye is compatible with annual ryegrass for extra yield and extended grazing. Seed 100 - 120 lbs per acre - August through November. Responsive to Nitrogen.

# BRASSICAS & HERBS



## Pasja Hybrid Brassica

**Pasja** is high yielding brassica that is a cross between a forage turnip and forage rape. Unlike a turnip, pasja has a taproot, giving it better drought tolerance. It has excellent regrowth capability allowing for multiple grazings. Pasja can be planted in the spring with oats or ryegrasses; in the summer with pearl millet or sorghum sudangrass; or in the late summer with grains or cool season grasses. With good fertility and moisture, Pasja can be ready to graze in 42-65 days and re-grazed in approx. monthly intervals. Do not overgraze. Pasja tops have proven to have higher protein levels than purple top turnips. Pasja has also been known to NOT taint milk. Plant 2-5 pounds per acre spring, summer, or fall. Best results when planted in spring or summer.

Responsive to Nitrogen and Phosphorus

## Appin Forage Turnip



*Appin Turnips have multiple growing points on the bulb, which gives a better opportunity for re-growth.*

**Appin** is a unique forage turnip that was bred to give multiple grazings of high quality forage throughout the growing season. The bulb is firmly set in the soil and will typically have 6-10 growing points on top of the bulb. This gives you a much higher proportion of leaf matter than other turnips. It is also multi-crowned to give you improved re-growth potential. Appin Turnips can be sown with oats, annual ryegrass, cereal rye, and other grasses. Appin turnips are often interseeded into cool season grass pastures. Plant 2-5 pounds per acre spring or late summer. Best results when planted in late summer.



**Chicory** is a high yielding, broad leaved perennial herb that has excellent feed value for livestock. Chicory is suitable for all types of livestock and is a great protein source. It is ideally managed when mixed with clovers and grasses. Plant 5 pounds per acre spring or late summer/early fall.



**Purple Top** turnips are a 55 day general purpose turnip. Roots are large and smooth, globular, white in color measuring sometimes up to 4 inches in diameter. Tops will provide forage for cattle or wildlife. Plant 2-5 pounds per acre spring or late summer.



# FORAGES

## Late Winter/Early Spring



### Cow★Pro Forage Oats

Cow★Pro Forage Oats are an extremely tall oat variety. Developed especially for forage production. Late maturing – approximately 5 days later than Jerry. Cow★Pro Oats have strong straw strength, resistant to Smut, moderate resistance to Stem Rust. Grain has light test weight, and white color. Highly recommended for hay, pasture, or silage. Adding Austrian winter peas or hairy vetch will increase protein and yield. Plant Feb. thru April early as possible. Seed 100 lbs. per acre.

### Winter Annual Legumes - Spring Forages

**Hairy Winter Vetch** - A very winter hardy legume for pasture, hay or silage. High in protein, this legume is very palatable. Is used for a cover/plowdown crop. A good companion with small grains, wheat, rye, barley or triticale. Seed in late summer. Plant 25-30 lbs in mixtures; 40-50 lbs. in pure seeding.

**Austrian Winter Peas** - Winter peas make an excellent companion to small grains for hay or silage, adding additional protein and yield. Not adapted for grazing. Winter Peas makes a good nitrogen producing cover crop. Seed in late winter with oats or late summer with wheat or triticale. Plant 25-30 lbs. per acre with companion crop; 40-50 lbs. per acre for cover crop.

### Pasja Hybrid Brassica

Pasja is a high yielding brassica that is a cross between a forage turnip and forage rape. Pasja offers a tremendous opportunity for multiple grazings. Pasja can be sown in the spring with oats or Italian Ryegrass; in the summer with sorghum-sudangrass or pearl millet. With good fertility, moisture and management, Pasja can be ready to graze in 42-65 days. Pasja has a tap root and grows longer than turnips into times of dry weather.

### Jerry Oats

Medium maturity-about 4 days later than Don, medium height. Good lodging resistance, very high test weight, high groat percentage, white/ivory seed. Moderately susceptible for red leaf, moderately resistant to crown rust and moderately susceptible to stem rust.

## Forages Late Spring / Summer

### Honey Comb

#### HYBRID SORGO SUNDANGRASS

Cow★Pro Honeycomb-Fine stemmed and very leafy. Honeycomb is well suited for summer pasture, hay or green chop. Honeycomb is a three way cross Hybrid Sorg-Sorghum X Sudangrass. The sorgo cross reduces the stem size and brings about its sweet, juiciness. Honeycomb has uniform growth with very broad, dark green leaves. Its excellent root system provides standability and drought tolerance. Excellent seedling vigor and fast regrowth provide multiple cuttings or continuous summer pasture.

- Seeding Time: Planting can begin in mid-May or when the soil temperatures are 60 to 65 degrees. Later plantings up through July are possible if moisture is available for germination, and if fewer cuttings are acceptable.
- Seeding Rates: Drilled at 25 to 30 lbs per acre. Broadcast at 35 to 50 lbs per acre. A good seed bed preparation will enhance quality and quantity. The higher the seeding rate, the smaller the stem size.
- Planting depth of 1 to 1 1/2 inches is recommended.
- Fertility: Soil test before planting. Honeycomb normally needs 80 to 120 lbs. N. Split application, preplant and after first cutting, 50 lbs. P - 90 lbs. K. Very responsive to nitrogen needs. Lime is needed on acidic soils.
- Harvest 24 to 36 inches and should be cut when the first boot stage appears. Leave 6 to 10 inches of stubble for tillering and regrowth.
- Protein content ranges for 12% to 14% prior to heading.
- Not recommended for horses. Alternative Cow★Pro Pearl Millet.
- Follow guidelines to avoid prussic acid and nitrate toxicity.
- A perfect way to rebuild hay supplies or quick pasture.

### MANAGEMENT TIPS

Prevent Prussic Acid and Nitrate Poisoning

In most cases prussic acid is produced early in the life of a plant and then is diluted by additional growth so that by the time the forage is fed there is no harm to the animal.

When plants are stunted at an early state, growth is abnormally slow or non-existent and the prussic acid content may be high enough to be toxic if fed to animals. A drought or early freeze can cause this stunting.

If growth is slow or halted, wait a sufficient amount of time before using as feed. All plants contain some nitrate, but excessive amounts are likely to occur in forages grown under stressful conditions.

Forages that contain high nitrate levels can be diluted in the diet with grains or with other forages low in nitrates and then can be fed safely.

It is best to test feed if high nitrate levels are suspected.





# Forage Late Spring/Summer



## Surpass

**BMR 6 Sorghum  
Sudangrass**



- High sugar content to improve palatability and feed intake
- Superior regrowth for quicker harvests
- Up to 50% more leaves than traditional haygrazers improving feed quality & feed utilization
- 15-25% less lignin content than competitive bmr hybrids
- RFQ value comparable to alfalfa
- Dwarf multileaf helps improve standability and harvestability

**Surpass** is a bmr-6 hybrid sorghum sudangrass that can meet more than half of the energy needs of cattle and is comparable to alfalfa. This does not mean that it has the same protein level, but rather similar energy levels to get equal weight gains.

**Surpass** can be used for hay, baleage, silage, greenchop, or directly grazed. **Surpass** is usually harvested in 50-60 days for the first cutting. With adequate moisture and fertilization, later cuttings should occur in approx. 40 day intervals.

Having bmr traits give **Surpass** reduced levels of lignin resulting in higher feed intake and improved weight gains. It also indicates a higher leaf to stem ratio resulting in higher feed intake. Due to better stalk digestibility and a smaller stalk diameter, seeding rates can be reduced compared to other hybrid sorghum sudangrasses. Drill 20-25 lbs per acre late May-July or broadcast 30-50 lbs per acre.

**Fertility:** We recommend that no more than 80-120 units of N in split applications should be used throughout the growing season. Apply 60 units preplant and 40 units after each cutting. P, K, and all micronutrients should be applied at rates according to a soil test.



## *A Warm Season Annual Grass Hay with Quality & Palatability*

**Tiffany Teff** is a warm season annual grass that can be harvested multiple times during the growing season as hay, silage, or pasture. This fast growing crop not only produces quality forage but also high yields during the summer growing season. When weather conditions are optimal, harvest schedules should occur every 40-45 days. Teff has a nutritive value comparable to timothy making it an excellent forage for horses and other livestock. It is fine stemmed, leafy, and very palatable. Protein content generally ranges from 12-17% depending on growth stage.

Teff is very small-seeded averaging 1.3 million seeds per pound. Due to small seed size, teff requires a firm seed bed, similar to alfalfa, in which good seed to soil contact can occur. Teff planted in loose soil reduces establishment time significantly. It has been found best to use a Brillion seeder and cultipacker combination. However, a conventional or no-till drill can be used. Broadcast seeding can also be successful, but rolling must occur.

Plant 10 lbs per acre at a depth of 1/8-1/4 inch late May-July.

Deeper depths result in poor stands.

**Fertilization:** 50 to 60 lbs of N at planting is recommended. Small applications of N after each cutting will enhance later yields





# SUMMER FORAGES

## DAIRY MASTER BMR

This Forage sorghum hybrid is "Brown midrib" and has a very sweet stem with excellent green leaf retention. The brown midrib characteristic increases digestibility of the stem fibers by reducing the quantity of indigestible lignin. Lignin content is reduced approximately 40-60% depending upon environmental conditions. This reduction in lignin increases cellulose and hemicellulose content, both are more digestible than lignin. Because lignin is a structural component of the stem, by its reduction, stems are somewhat softer and more limber.

The Hybrid has excellent foliar disease resistance and maintains a healthy canopy until harvest. Because the hybrid has an exceptional level of sugars in the stem, palatability is very high. These sugars also provide additional energy and nutrition from the hybrid.

Large heads of tannin-free grain add to the nutritional level of silage produced. Days to bloom are approximately 85 from sowing. Although the hybrid is designed for a one-time harvest, it has good regrowth capacity which can be utilized for direct grazing after the silage crop has been removed. Yield of silage is similar to SWEET T but with a greater grain to stover ratio.

Seed Count	15,000 to 16,000
Seed Color	White Without Tannin
Exertion	6-8 Inches
Head Size	6-10 Inches
Height	Approx. 85 Inches
Days To Bloom	Approx. 85 Days
Regrowth	Good
Planting Rate	5 to 8 lbs. / acre



## COW★PRO HYBRID PEARL MILLET

An excellent choice for a quick hay crop or summer pasture. Very leafy on very fine stems. The extra leafiness will help boost protein levels over other pearl millets. Cow★Pro Pearl Millet has excellent seedling vigor and tremendous regrowth and tillering after cutting or grazing. Cow★Pro Hybrid Pearl Millet will grow better on marginal or acidic soils than sorg x sudan crosses and is drought tolerant. There is no prussic acid danger with pearl millet, but is susceptible to nitrate toxicity. Cow★Pro Hybrid Pearl Millet offers multiple cuttings of excellent quality forages for cattle, horses, sheep and other grazing animals.

- Seeding Time: Mid May or when soil temperatures are 60 degrees plus. Later plantings can be done if moisture is adequate.
- Seeding Rate: 12 to 15 lbs. per acre drilled; preferably in narrow rows. Broadcast 30 to 40 lbs. per acre on prepared seed bed. 85,000 seeds per lbs.
- Planting depth of 1/2 to 3/4 inches.
- Fertility: Soil test before planting. Hybrid pearl millet normally requires 80 to 120 lbs. nitrogen in split applications, preplant and after first cutting. It responds to nitrogen, but excessive amounts with stress may cause nitrate toxicity.
- Harvest: 24 to 36 inches, or before seed heads emerge. Leave 6 to 10 inches of stubble for tillering and regrowth.
- Protein Content: Ranges 12% to 14% prior to heading.



## COW★PRO FORAGE SOYBEANS

A soybean bred for forage production. Tall and leafy, ten days to two weeks earlier than Laredo. Drought tolerant, productive even in poor soils. May be combined with foxtail millet for roughage and yield. Seed 60 lbs. in rows; 90 lbs. drilled. Plant after soil temperatures are 60 degrees. Approx. 3,400 seeds per lb. Will continue to grow after blooming.

Forage yield and quality of three Cow Pro soybeans harvested 60, 80 and 100 days after planting at Sun Prairie, Wisconsin in 2000.

Variety	Days to harvest	Height in	DM yield t/a	CP %	ADF \$	NDF \$	Milk yield lb/a	RFV
Cow Pro	60	28	1.66	32.8	3.6	40.5	3106	144
	80	36	2.37	24.6	32.5	36.8	4925	161
	100	36	2.52	17.9	32.3	38.5	5076	154
Average		33	2.18	25.1	32.8	38.6	4333	153

## GERMAN FOXTAIL MILLET

Excellent for hay, this summer annual is extremely drought tolerant and can be planted later in the season with expected good yields.

- Quick growth reduces weed competition.
- Can be harvested in 60 days. One cutting.
- Harvested when grain is in milk stage.
- Often planted with laredo haybeans as a roughage. However, at harvest, the millet is usually overripe.
- Plant May-July, 20-30 lbs. drilled, 30-40 lbs. broadcast.
- Responds to nitrogen fertilization.
- Not recommended for horses.

## COWPEAS

A summer annual legume. Use for pasture, hay, and wildlife plantings. Very viney stems and large leaves. Tolerant of drought conditions, low fertility, and acidic soils. Plant late May-July. Plant 30-40 lbs drilled or 100 lbs broadcasted.



## LAREDO HAYBEANS

A late maturing soybean variety used for hay. The seed's small size allows 6,000 to 7,000 count per lbs. Seed is black in color. Plant height is tall and very bushy.

- High in protein and very rich
- Plant with german millet for added roughage. Millet will mature before the soybean.
- Ideal cutting as pod begins setting.
- Drill plant 40-50 lbs. per acre straight.
- Drill plant 40 lbs. with 15-20 lbs. german millet.
- Planting time May through July.





# WILDLIFE



**CORN, HYBIRD, FIELD** Roundup Ready; 115 day maturity. Allows weed control in food plots. 80,000 kernel bag. Plant April-June. Covers 4 acres.

## **CORN, REID'S YELLOW DENT**

This old fashioned, 110 day maturity field corn is an open pollinated, non-hybrid variety with yellow kernels. A hardy and productive plant that will attract many wildlife species including deer. Plant 10 to 12 lbs. per acre April thru June.



**LABLAB** This summer bean is extremely high yielding and drought tolerant. Once established, Lab Lab's high protein content makes it excellent for deer throughout the summer and fall until a killing frost. Lab Lab can be planted with millet, sorghum, or corn to provide a stalk for the vines to climb. This will help increase its productivity. Plant 20 lbs. per acre May thru July.



**SORGHUM, HYB GRAIN** Regular Milo grown for livestock and wildlife. Full grain head 100-120 day maturity. Plant 8-12 lbs. per acre. May-July.

**SORGHUM, WGF GRAIN** Wild Game Food, open pollinated is a short Milo 24" to 30", upright in growth with full grain head. Excellent wildlife feed. Ducks and geese love it. 100 day maturity. Plant 30 lbs broadcast, 15 lbs. drilled. May-July.



## **SUNFLOWER, PEREDOVIC**

Small, black sunflowers, growing 4-5 feet in height. Attracts game birds and other wildlife. Provides good hunter cover. 100-120 days to maturity. 30 lbs broadcast, 15 lbs. drilled. Plant April-July.

## **SUNFLOWER, HYBRID**

High in oil content, attracting most wildlife. Grown 2-3 ft with small heads filled with seeds. Plant 15 lbs. per acre broadcast, or 6-8 lbs. drilled. 100 day maturity. Plant April-July.

**COWPEAS** This viney, summer legume will attract turkey and deer from seedling stage on through maturity. Grows well on various soil types with very little preparation. Plant May thru July 60 lbs per acre.



## **SORGHUM, HYB-FORAGE**

**DAIRYMASTER BMR** a forage sorghum that puts on grain heads. Grows tall, allowing for lodging that gives feed and excellent cover for wildlife. Upland game birds and songbirds love it, not to mention turkey, deer, and rabbits. Grain heads are similar to Milo in size. 100-120 day maturity. Seed 15 lbs. per acre broadcast, or 8 lbs. per acre drilled. Plant May-July.



**BUCKWHEAT** Good for quail, doves, turkey, duck, and geese, plus other wildlife. Abundance of feed. 10-12 week maturity. Plant 40-50# per acre. April-July



**RICE** a duck and goose hunters dream wildlife plot. Don't wait for it to happen—create your own waterfowl habitat, pre-season and post-season. Convert that wet land into a living sanctuary. Your reward will come from many hours of nature's association with hunting and waterfowl observations. Seed 50-90 lbs per acre. 150 day maturity. Plant June-July.



**EGYPTIAN WHEAT** Really a sorghum, very tall with a grain head. Provides excellent cover and feed for birds as it bends over. Seed 10-15 lbs. per acre.

## **SORGHUM, HYB-FORAGE RED TOP KING**

an economical forage sorghum hybrid that provides an abundance of seed heads, smaller in size than Milo, and a heavy forage stalk plant that lodges into a heavy habitat network. Provides feed and protection for all wildlife. 100-120 day maturity. Seed 30 lbs. broadcast or 15 lbs. per drilled. Plant May-July.



**JAPANESE MILLET** One of many different millets, growing fast to 2-4 ft. in height. Maturity 100-120 days. Good in flood plain. Ducks, geese, dove and quail. 20-30 lbs. per acres. Plant May-Sept.



**BROWN TOP MILLET** Grows 2-4 feet tall for quail, doves, turkey and ducks. Will produce seed in 60-70 days. Seed 30-40 lbs. per acre.



**GERMAN FOXTAIL MILLET** a summer annual grass usually cultivated for cattle hay. Seed heads have a foxtail appearance. Seeds are attractive to quail, dove, and other upland birds. Seed ripens in 60 days. Drill 20 - 25 lbs; Broadcast 30 lbs. in late May thru July.



**WHITE PROSO MILLET** Grows 1-2 ft. putting on small seeds that have high appeal to doves. Quail, pheasant and other wildlife will be attracted. Maturity 75 days. Plant 30 lbs. per acres. May-Sept.



# WILDLIFE



**SPRING WILDLIFE MIX** Missouri Southern's Spring Mix is attractive to many wildlife species; deer, turkey, quail and more. The diversity of these different plants will provide food in spring, summer, fall, and early winter. This quality mix contains 50% soybeans; 20% hybrid grain sorghum; 20% German foxtail millet, and 10% perodovic sunflowers. Plant 50 lbs. per acre -Mid-May thru July.



**SYNERGY LADINO CLOVER** Synergy Ladino clover is a long-lived perennial and a must have for wildlife food plots. Synergy spreads by stolons and secondary roots making a dense green mat. Synergy also grows upright for high yields and more browse. Synergy is tolerant of wet soils and lower ph. Easy to seed. Sow in late winter, early spring, or late, late summer. Seed 8 lbs. to the acre for thick stands.



**KOREAN LESPEDeza** A reseeding annual legume used for pasture or hay and makes excellent wildlife cover and feed. Especially good for quail, dove, ducks, rabbits, deer, and livestock. Drought resistant and will grow in a variety of soils. Plant 10-15 lbs. per acre. Offers value in 90-120 days. Plant February-April and August-October.



**CHUFAS** Grow like peanuts with no outer shell. Prefer fertile, sandy and loamy soils. Good for deer and turkeys. Seed 50 lbs. per acre broadcast or 20-30 lbs. Planted in rows. Plant May-September.



**SUGAR BEET** Beet seed is a great addition to any wildlife plot. Deer love to eat both the foliage and the roots and the nutrition is excellent. Sugar beets grow well in almost all soil types but do require moisture. For wildlife plots, we recommend broadcasting 5 lbs. per acre. Plant in spring or early fall.



**LESPEDeza, SERICEA** A perennial, erect in growth with fine stems and multiple leaves. Grows 18-40 inches tall depending upon weather and soil conditions. Especially attractive for certain wildlife cover. Offers some food value. Good for erosion control. Seed 20-30 lbs. per acres. Plant late March-May.



**BICOLOR LESPEDeza:** This perennial shrub legume is used to provide food and cover to pheasant, quail, rabbit, and deer. Plant along field borders, ditches/washouts and other small areas devoted to wildlife habitat. Plant 10 lbs/acre late Spring and Summer.



**KOPU II WHITE CLOVER** Kopu II is a long-lived perennial white clover that is highly attractive to deer and turkey. With great persistence, large leaves, and the ability to spread by stolons, Kopu II would make an excellent addition to any food plot. Combine with chicory for the perfect food plot. Plant late winter, early spring, or late summer at 5 to 8 lbs. per acre.



**RAPE** Rape is a fast growing, heat and cold tolerant brassica that is highly adaptable to the Midwest. Being high in energy, rape makes good pasture for cattle or deer. Seed in spring for summer grazing or late summer for fall and winter harvest. Seed 10 lbs. per acre.



# WILDLIFE



**DEER MAGIC** Deer love alfalfa, ladino clover, and chicory. We have combined Venus Alfalfa, Synergy Ladino Clover, and Chicory to make a long-living, high protein plot which not only gives deer a desirable and nutritious diet, but also spreads your food plot risk. Seed 10 lbs. per acre in spring and late summer.



**FALL WILDLIFE MIX** Missouri Southern's mix is a diversity of small grains, legumes, and brassicas that give deer the option of selection. This mix contains 30% Bob Oats; 25% Winter Wheat; 25% Winter Rye; 15% Austrian Winter Peas; 5% Turnips and Rape. Good food for deer and other wildlife in the fall, winter and early spring. Plant 50 to 100 lbs. per acre - September thru November.



**CHICORY** is an extremely leafy perennial herb. Deer find chicory very desirable to browse and also highly nutritious. Chicory is a basic in long living food plots. Chicory and ladino white clover are very compatible together. Seed chicory in the spring or fall at 5 lbs. to the acre.



**TURNIP, PURPLE TOP** a 55-day popular general-purpose turnip. Roots are large and smooth, globular, white in color measuring sometimes up to 4 inches in diameter. Tops provide forage for wildlife. Seed 2 to 5 lbs. per acre. Plant April-October depending upon plot locations and harvest needs.



**CRIMSON CLOVER** a winter annual legume that is a good forage producer and a quick starter. It is a good food source for deer and turkey. Crimson promotes good insect production for quail and other birds. Seed 10 - 20 lbs. in the late summer preferred; or in the spring.



**HAIRY WINTER VETCH** A very winter hardy legume for pasture, hay or silage. High in protein, this legume is very palatable. Is used for a cover/plowdown crop. A good companion with small grains, wheat, rye, barley or triticale. Seed in late summer. Plant 25-30 lbs in mixtures; 40-50 lbs. in pure seeding. Also good with oats planted in spring.



**PASJA HYBRID BRASSICA** Pasja is a high yielding brassica that is a cross between a forage turnip and forage rape. Having a high protein content, this brassica is highly attractive to deer and other wildlife. Plant in spring or late summer.



**APPIN TURNIP** Forage turnip bred for multiple grazings. Bulb has 6-10 growing points making Appin Turnips a quality forage for wildlife. Highly digestible and high in protein. Plant 3-5 lbs/acre in spring or early fall.



**WINTER OATS, BOB** a variety suitable for fall planting. High in nutrition from plant and grain. Attracts deer, turkey, and rabbits. Not as winter-hardy as other small grains. Very compatible with winter annual legumes or brassicas. Seed 90-100 lbs. per acre - August thru October



**AUSTRIAN WINTER PEAS** Produce top quality forage for deer during the fall, winter and early spring. A cold tolerant viney plant. A good complement to small grains. Plant August-September; February - April. 30 - 40 straight; 20-30 lbs. with grains.



# WHITETAIL



THE WORLD'S LEADING  
FOOD PLOT PRODUCT

**Seed Type:** Perennial - a single planting can last up to 5 years  
**Soil Type Required:** Heavy soils that hold moisture such as river bottoms, clay and loam  
**pH Level Required:** 6.5 to 7.5  
**Sunlight Required:** 4 to 6 hours of broken, filtered or direct sunlight  
**Protein Content:** Up to 35%  
**Seeding Rate:** 8 lbs per acre  
**Seeding Depth:** 1/8" or less  
**Equipment Required:** Tillage equipment needed to break and smooth soil



**Double Cross,** a perennial that blends Imperial Clover with brassicas for rapid stand establishment, all season attraction, and longevity due to including Imperial Clover. Expect substantial tonnage for both early and late season plots. Plant 8 lbs per acre.



THE BEST ALFALFA-BASED  
WHITETAIL DEER FOOD PLOTS  
AVAILABLE

**Seed Type:** Perennial - a single planting can last up to 5 years  
**Soil Type Required:** Well-drained soils such as hilltops or hillsides  
**pH Level Required:** 6.5 to 7.5  
**Sunlight Required:** 3 to 5 hours of broken, filtered or direct sunlight  
**Protein Content:** Up to 35%  
**Seeding Rate:** 17 lbs per acre  
**Seeding Depth:** 1/8" or less  
**Equipment Required:** Tillage equipment needed to break and smooth soil

**Imperial Edge,** a perennial forage blend that provides powerful attraction all year long. Cold tolerant and heat resistant. Great protein content. Plant 26 lbs per acre.



## Imperial Whitetail Herbicides



Grass Control  
Herbicide

Broadleaf Weed  
Control Herbicide



THE ONLY CHICORY PRODUCT  
DEVELOPED ESPECIALLY FOR  
WHITETAIL DEER

**Seed Type:** Perennial - a single planting can last up to 5 years  
**Soil Type Required:** Slightly well-drained soils to heavy soils that hold moisture  
**pH Level Required:** 6.0 to 7.0  
**Sunlight Required:** 4 to 6 hours of broken, filtered or direct sunlight  
**Protein Content:** Up to 44%  
**Seeding Rate:** 6.67 lbs per acre  
**Seeding Depth:** 1/8" or less  
**Equipment Required:** Tillage equipment needed to break and smooth soil



FEATURING WINA-100  
BRAND FORAGE CHICORY

**Seed Type:** Perennial - a single planting can last up to 3 years  
**Soil Type Required:** Slightly well-drained soils to heavy soils  
**pH Level Required:** 6.0 to 7.0  
**Sunlight Required:** 4 to 6 hours of broken, filtered or direct sunlight  
**Protein Content:** Up to 44%  
**Seeding Rate:** 3 lbs per acre  
**Seeding Depth:** 1/8" or less  
**Equipment Required:** Tillage equipment needed to break and smooth soil

## Imperial Whitetail Attractants



THE PERFECT PLANTING FOR  
THOSE AREAS YOU CAN'T GET A  
TRACTOR TO

**Seed Type:** Annual - planting typically lasts 6 to 9 months  
**Soil Type Required:** Virtually anywhere good soil-to-soil contact can be attained  
**pH Level Required:** 6.0 to 7.0  
**Sunlight Required:** 2 to 4 hours of broken, filtered or direct sunlight  
**Protein Content:** Up to 36%  
**Seeding Rate:** 17-25 lbs per acre, based on the amount of ground work done  
**Seeding Depth:** 1/8" or less  
**Equipment Required:** No tillage equipment required



4-PLAY  
Break-Away Block  
"It's Four Blocks in One!"

Kraze  
Powered  
by Devour

Magnet Mix  
Liquid Attractant







**Tall Tine Tubers,** turnips that were selected for their attractiveness to deer. Quick early season production and late season grazing. Plant 3 lbs per 1/2 acre.



**Imperial BowStand,** an annual blend of forages that are excellent for shaded trails and secluded areas. No tillage equipment required. However, success rates are higher when seed to soil contact occurs. Plant 4 lbs per 4500 square feet.

## Imperial Whitetail Mineral/Vitamin Supplements



Imperial Whitetail  
30-06 Mineral



These supplements maximize antler growth and doe lactation. Powerfully attractive.

## Imperial Whitetail Attractant

- High Protein levels (24%)
- High Energy for fall and winter
- Fortified with critical minerals and vitamins
- Includes Devour for quicker attraction
- Can be added to feed to dramatically increase feed consumption



# INSTITUTE

**Seed Type:** Annual - planting typically lasts 6 to 9 months

**Soil Type Required:** Virtually anywhere good soil-to-soil contact can be attained

**pH Level Required:** 5.5 to 7.5

**Sunlight Required:** 2 to 4 hours of broken, filtered or direct sunlight

**Protein Content:** Up to 36%

**Seeding Rate:** 4 lbs - 4,500 sq. ft. based on the amount of ground work done

**Seeding Depth:** 1/8" or less

**Equipment Required:** No tillage equipment required



**DEVELOPED FOR THOSE AREAS AROUND YOUR FAVORITE STAND**



**Seed Type:** Perennial - a single planting can last up to 5 years

**Soil Type Required:** From poor soils to best soils, low to high pH, any area that receives 15-60" of annual rainfall.

**pH Level Required:** 5.4 to 7.5

**Sunlight Required:** 3 to 5 hours of broken, filtered or direct sunlight

**Protein Content:** Up to 36%

**Seeding Rate:** 22.5 lbs per acre

**Seeding Depth:** 1/8" or less

**Equipment Required:** Tillage equipment needed to break and smooth soil, can also be planted with minimum tillage



**A PREMIUM PERENNIAL BLEND FOR ADVERSE SOIL AND PLANTING CONDITIONS**



**Seed Type:** Annual - can last 6 to 8 months

**Soil Type Required:** Developed for a wide variety of soils

**pH Level Required:** 6.0 to 7.5

**Sunlight Required:** 4 to 6 hours of direct sunlight

**Protein Content:** Up to 36%

**Seeding Rate:** 25 lbs per acre

**Seeding Depth:** 1"

**Equipment Required:** Tillage equipment needed to break and smooth soil



**AN EXCEPTIONAL HIGH-PROTEIN AND HIGH-TONNAGE PRODUCER FOR SPRING & SUMMER FOOD PLOTS**



**Seed Type:** Annual - summer/fall planting lasts through fall/winter hunting season

**Soil Type Required:** Well-drained soils to heavy soils

**pH Level Required:** 6.0 to 7.0

**Sunlight Required:** 4 to 6 hours of broken, filtered or direct sunlight

**Protein Content:** Up to 36%

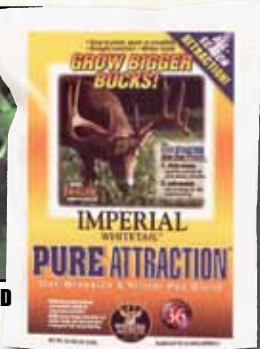
**Seeding Rate:** 26 lbs 1/2 acre

**Seeding Depth:** 1/4" lightly drag

**Equipment Required:** Tillage equipment needed to break and smooth soil



**FEATURING WINA BRAND OATS, WINA BRAND FORAGE BRASSICAS AND WINTER PEAS**



**Seed Type:** Annual - summer/fall planting lasts through fall/winter hunting season

**Soil Type Required:** Well-drained to heavy soils

**pH Level Required:** 6.5 to 7.0

**Sunlight Required:** 4 to 6 hours of broken, filtered or direct sunlight

**Protein Content:** Up to 36%

**Seeding Rate:** 6 lbs per acre

**Seeding Depth:** 1/8" or less

**Equipment Required:** Tillage equipment needed to break and smooth soil



**DEVELOPED FOR LATE SEASON FOOD PLOTS AND LATE SEASON HUNTING**





# NATIVE GRASSES OR FORAGES



**Big Bluestem**

**Big Bluestem** is a perennial warm season grass that is used for forage, prairie restoration, and highway right-a-ways. It is a high quality forage for all types of livestock. It prefers moist, well drained soil, but will work on many soil types. Plant 10 PLS per acre late May-July or frost seed December-February.



**Little Bluestem**

**Little Bluestem** is warm season perennial grass that is used for forage, prairie restoration, highway right-a-ways, and wildlife habitat. It grows well on a wide range of well drained soils. Plant 6 PLS per acre late May-July or frost seed December-February.



**Crabgrass** is a warm-season annual that is easy to establish. Most often used for forage, this grass is adapted state wide and can produce on a variety of different soil types. Stands are maintained by allowing to re-seed. Plant 4-6 PLS per acre late May-July



**Indiangrass**

**Indiangrass** is a warm season perennial grass that is used for forage and prairie restoration. When harvested before flowering, it is considered one of the most palatable native grasses for livestock. It is adaptable on various soil types, but prefers well drained bottom land. Plant 8-10 PLS per acre late May-July or frost seed December-February.



**Eastern Gama**

**Eastern Gamagrass** is a warm season perennial grass that tends to grow in 1-4 foot diameter clumps. Used primarily for forage, this native has vigorous regrowth abilities and great palatability. It prefers moist, heavy soils for maximum production. Plant 8-10 PLS per acre December - February or plant stratified seed in late May.



**Virginia Wild Rye**

**Virginia Wild Rye** is a unique native grass - it is a cool season perennial. Most often used for forage, this grass is beardless making it suitable for hay or pasture. Grows best in moist soils and can thrive in shade or full sun. Plant 10 PLS per acre fall or spring.



**Sideoats Grama**

**Sideoats Grama** is a long-lived perennial warm season grass that is used for prairie restoration, highway right-a-ways, and some forage. It can produce lots of forage, but is not the most palatable native. Extremely drought tolerant, however, it needs moisture until it is established. It prefers well drained sites. Plant 8-10 PLS per acre late May-July or frost seed December-February.



**Switchgrass** is a warm season perennial grass used for forage, prairie restoration, and in some cases bio-energy production. Although it is very drought tolerant, switchgrass prefers low, moist ground but can grow on various soil types. Due to its height and deep root system, switchgrass can become dominant over other natives over time. Plant 5-6 PLS pounds per acre late May-July or frost seed December-February.



# MISSOURI SOUTHERN LAWN SEED

## Turfgrass Water Conservation Alliance

If A Product Is Labeled With The TWCA Stamp of Approval, Expect That Product To Have Superior Drought Resistance.

TWCA is a non-profit organization striving to improve the environment through water conservation efforts in the turfgrass industry. Due to urban sprawl, industrial growth, and agricultural modernization, a greater demand of water has been created. This group of researchers and producers are responding to concerns of the public in regards to practical water use in lawns and gardens. Being unbiased, the TWCA has set up a rigorous testing protocol to determine the drought resistance of different varieties of grass. With multiple testing locations across the U.S. the TWCA is able to get accurate and truthful results.



Plant 8-10 pounds per 1000 square feet when seeding a new lawn March through late May or September through October.



**Guinness** Kentucky Bluegrass is an improved variety of bluegrass that has excellent early spring green-up, fine leaves, and has the fastest establishing speed of KY Bluegrass varieties. Plant 3-5 pounds per 1000 square feet March through early May or September through October.



- Cold Tolerant
- Sod Forming
- Drought Resistant

**Riviera** is an improved, cold tolerant turf-type bermudagrass. With excellent adaptation to the transition zone, Riviera makes for a perfect lawn, golf course, or athletic field. Plant 2-3 pounds per 1000 square feet late May through July.



### Zenith Zoysia from seed:

- Affordable
- Superior Lawn
- Low Water Requiring
- Dense Turf
- Winter Hardy
- Heat Loving
- Weed Resistant
- Low fertility Requiring
- A True Lifetime Lawn



Plant 1 to 2 pounds per 1000 square feet when soil temperatures reach 65 degrees. Generally for the transition zone this means late May to July.

## CROWN VETCH

Perennial Ground Cover

Seed spring or late summer  
1 lb per 400 square feet



## Midwest Wildflower Mix

Kind	Type	Color
Shasta Daisy	P	White
Blanket Flower	P	Yellow/Red
Thickspike Gayfeather	P	Purple
Mexican Red Hat	P	Yellow
Lemon Mint	A	Lavender
Purple Coneflower	P	Purple
Prairie Aster	A	Purple/Yellow
Plains Coreopsis	A	Yellow/Red
Purple Prairieclover	P	Purple
Upright Prairiecone	P	Yellow/Red
Blackeyed Susan	B	Yellow
Dwarf Red Coreopsis	A	Red
Partridge Pea	A	Yellow
Coneflower	A	Blue
Dames Rocket	P	Lavender





# MISSOURI SOUTHERN LAWN SEED



- Excellent Early Seedling Vigor
- Great in Full Sun or Partial Shade
- Reduced Nitrogen Requirement
- Fewer Fungicides, Environmentally Friendly
- Improved Turf Quality
- Improved Traffic Tolerance
- Good Heat & Drought Tolerance

**5 Way Tall Fescue** is a blend of five turf type tall fescues including Falcon IV and Finelawn Elite, two premier varieties. With these two excellent varieties and three other highly rated fescues, 5 Way has become the choice lawn for many. 5 Way not only has excellent disease resistance, but also great heat & drought resistance. It also has a uniform appearance due to its turf type characteristics, meaning it will not be clumpy like KY31 Tall Fescue. 5 Way is also productive when planted in full sun or partial shade. Plant 8-10 pounds per 1000 square feet for a new lawn March - early May or September - October. If over-seeding plant 4-5 pounds per 1000 square feet.



- Top Ranked Turf Type
- Great Heat & Drought Tolerance
- Fine Leaved
- Rhizomatus Tall Fescue



**Falcon IV** is an improved heat and disease resistant, semi dwarf variety with excellent turf-type qualities. As one of the top ranked varieties, Falcon IV has fine leaves and great drought resistance making it an excellent choice for your lawn. Plant 8 to 10 pounds per 1000 square feet for a new lawn or 4 to 5 pounds per 1000 square feet when overseeding. Plant March through early May or September through October.



- Top Ranked Turf Type
- Great Heat & Drought Tolerance
- Fine Leaved
- Semi-dwarf type

**Finelawn Elite** is an improved, heat and disease resistant, semi-dwarf tall fescue variety with excellent wear tolerance, fine leaves, and a dark green color. With traits including short dwarf dense growth, improved turf quality, and good disease resistance, Finelawn Elite makes for an excellent lawn. Plant 8 to 10 pounds per 1000 square feet for a new lawn or 4 to 5 pounds per 1000 square feet when over-seeding. Plant March through early May or September through October.

## TUFF-TURF BRAND TURF TYPE TALL FESCUE

This is Missouri Southern Seed's own turf-type tall fescue. This fescue is reasonably priced, durable, and very attractive. Because Missouri Southern owns this brand, there are less royalties and better savings for the customer without sacrificing any quality. This turf-type fescue has excellent drought resistance and fine textured leaves making any lawn or durable playing field a suitable and beautiful sight. Plant 8 to 10 pounds per 1000 square feet March through early May or September through April.





# MISSOURI SOUTHERN LAWN SEED



- Improved Traffic Tolerance
- Easy to Maintain - Less Mowing
- Good in Full Sun
- Good Drought Tolerance
- Contains Double Time for the Fastest Establishment
- Environmentally Friendly, Requires Less Input



**Super Easy Turf 4** combines four of the best varieties to give you an exceptional looking, yet durable lawn. Capitalizing on the strengths of Falcon IV and Finelawn Elite turf-type tall fescues, makes them the core of this mixture. Super Easy Turf 4 also contains Double Time perennial ryegrass for fast establishment and improved drought tolerance. This along with the tall fescue and an elite Kentucky Bluegrass will quickly provide a lush, beautiful lawn all season long. Plant 8-10 pounds per 1000 square feet March - early May or September - October. When overseeding plant 4-5 pounds per 1000 square feet.



**double time**  
turf - type tetraploid  
ryegrass



- Deep Dark Green Color
- Quick Establishment of Turf
- Enhances Tall Fescue and KY Bluegrass Stands
- Stays Green Longer Than its Competition

**Double Time** is a new and improved variety of ryegrass that leaves all other ryegrasses behind. Establishing quickly, Double Time produces more turf in a two week time period than its competition. Double Time also has a dark green color. Being a tetraploid, Double Time has twice as many cell contents. This means when temperatures and moisture conditions aren't ideal Double Time will have an amazing eye appeal. Additionally, Double Time stays green longer than any other ryegrass. Plant 5-6 pounds per 1000 square feet March - April or September - October.







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## MISSOURI SOUTHERN

### PASTURE • HAY • WATERWAY MIXES

#### CLASSIC

POTOMAC ORCHARDGRASS.....	20%
TIMOTHY.....	15%
LINN PERENNIAL RYEGRASS.....	25%
RED CLOVER CP.....	12%
ALFALFA CP.....	6%
LADINO CLOVER CP.....	2%

#### WATERWAY

KY-31 TALL FESCUE.....	68%
PERENNIAL RYEGRASS.....	20%
TIMOTHY.....	10%
RED TOP.....	2%

#### HORSE

HALLMARK ORCHARDGRASS.....	30%
TIMOTHY.....	15%
LINN PERENNIAL RYEGRASS.....	24%
KENTUCKY BLUEGRASS.....	20%
RED CLOVER CP.....	9%
LADINO CLOVER CP.....	2%

#### ELITE

WARRIOR ORCHARDGRASS.....	30%
DUO FESTULOLIUM.....	20%
BESTFOR RYEGRASS.....	20%
COW★PRO TIMOTHY.....	10%
SOLID RED CLOVER CP.....	18%
SYNERGY LADINO CLOVER CP.....	2%

#### HARDY

COW★PRO FESCUE.....	55%
POTOMAC ORCHARDGRASS.....	20%
TIMOTHY.....	12%
RED CLOVER CP.....	11%
LADINO CLOVER CP.....	2%

#### FIX-A-LOT

BESTFOR RYEGRASS.....	40%
ANNUAL RYEGRASS.....	25%
COW★PRO FESCUE.....	20%
COW★PRO TIMOTHY.....	10%
MEDIUM RED CLOVER CP.....	5%



## LAWN MIXES

#### FANCY

KENTUCKY BLUEGRASS.....	18%
CREeping RED FESCUE.....	18%
PERENNIAL RYEGRASS.....	34%
ANNUAL RYEGRASS.....	30%

#### PREMIUM

KENTUCKY BLUEGRASS.....	25%
CREeping RED FESCUE.....	20%
PERENNIAL RYEGRASS.....	35%
ANNUAL RYEGRASS.....	20%

#### SUPREME

PERENNIAL RYEGRASS.....	55%
KENTUCKY BLUEGRASS.....	30%
CREeping RED FESCUE.....	15%

#### LANDSCAPER

KY 31 TALL FESCUE.....	80%
PERENNIAL RYEGRASS.....	20%

#### PRETTY-TUFF

TURF-TYPE FESCUE.....	75%
ANNUAL RYEGRASS.....	25%

#### EASY-TURF

TURF-TYPE FESCUE.....	80%
PERENNIAL RYEGRASS.....	20%

#### 5 PLUS 10

5 WAY TURF FESCUE.....	90%
KY BLEGRASS.....	10%

#### PLAYGROUND

KY 31 TALL FESCUE.....	55%
KENTUCKY BLUEGRASS.....	10%
PERENNIAL RYEGRASS.....	25%
ANNUAL RYEGRASS.....	10%

#### SUPER EZ TURF 4

FALCON IV TURF FESCUE.....	40%
FINELAWN ELITE TURF FESCUE.....	40%
DOUBLE TIME TURF RYEGRASS.....	15%
GUINNESS BLUEGRASS.....	5%

#### SHADY

CREeping RED FESCUE.....	30%
TURF-TYPE FESCUES.....	70%



## HOW TO PLANT A NEW LAWN

### Five Easy Steps to a New Lawn



**1. Preparation:** Aerate or till the soil, remove rocks, and apply an all-purpose fertilizer. Rake the seedbed until it is smooth and firm. When overseeding, be

sure to rake out thatch so seed can have contact with soil.



**2. Sowing:** Spread the seed evenly. Lime if necessary.

improved when seeds are covered with 1/8 to 1/4 inch of soil - no more.

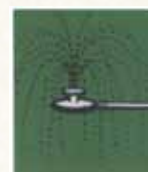
**3. Rake Lightly:** Germination is



**4. Cover Seed:** Cover the seedbed with a very thin layer of top dressing or straw. This keeps the soil from drying out while allowing the sun to

filter through.

**5. Water:** The top layer of soil must remain moist until the grass is well established. Spray mist as often as necessary. Avoid overwatering.



Your lawn should be ready for first mowing in three to six weeks.

■ Feed every six to eight weeks in fall and early spring.

■ Use broadleaf weed killers after the new lawn is mowed at least three times.